CHAPTER 21

RTRV Commands

Note The terms "Unidirectional Path Switched Ring" and "UPSR" may appear in Cisco literature. These terms do not refer to using Cisco ONS 15xxx products in a unidirectional path switched ring configuration. Rather, these terms, as well as "Path Protected Mesh Network" and "PPMN," refer generally to Cisco's path protection feature, which may be used in any topological network configuration. Cisco does not recommend using its path protection feature in any particular topological network configuration.

This chapter provides retrieve (RTRV) commands for the Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, and ONS 15600.

21.1 RTRV-<MOD1FCPAYLOAD>

(Cisco ONS 15454) The Retrieve 1GFC or 2GFC (RTRV-<MOD1FCPAYLOAD>) command retrieves the attributes related with the Fibre Channel port.

Usage Guidelines See Table 27-1 on page 27-1 for supported modifiers by platform.

Category Ports

Security Retrieve

Input Format RTRV-<MOD1FCPAYLOAD>:[<TID>]:<AID>:<CTAG>[::::];

Input Example RTRV-1GFC:CISCO:FAC-6-1:888;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:,,[<ROLE>],[<STATUS>]:LINKRATE=<LINKRATE>,LINKSTATE=<LINKSTATE>,
   [LINKRCVRY=<LINKRCVRY>],[DISTEXTN=<DISTEXTN>],
   [LINKCREDITS=<LINKCREDITS>],[MFS=<MFS>],[ENCAP=<ENCAP>],[NAME=<NAME>],
   [SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[FREQ=<FREQ>],[LOSSB=<LOSSB>]:
   <PST_PSTQ>,[<SST>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1:,,WORK,ACT:LINKRATE=1GFC,LINKSTATE=UP,LINKRCVRY=Y,
   DISTEXTN=NONE,LINKCREDITS=0,MFS=2148,ENCAP=GFP-T,
   NAME=\"FC PORT\",SOAK=32,SOAKLEFT=\"12-25\",FREQ=1550,
   LOSSB=LR-1:OOS-MA,MT"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<ROLE>	(Optional) The port role in Y-cable protection (WORK or PROT). The parameter type is SIDE, which is the role the unit is playing in the protection group
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) A port status in Y-cable protection (ACT or STBY). The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<LINKRATE>	The actual rate running on the Fibre Channel port. It can differ from the payload type provisioned. The parameter type is LINKRATE, which is the link rate on a Fibre Channel port.
• 1GFC	The rate is 1 G Fibre Channel.
• 1GFICON	The rate is 1 G FICON.
• 2GFC	The rate is 2 G Fibre Channel.
• 2GFICON	The rate is 2 G FICON.
• UNKNOWN	The rate is unknown.
• UNPLUGGED	The Small Form-factor Pluggable (SFP) is not plugged into the Fibre Channel port, so the link rate cannot be detected.
<LINKSTATE>	Link state. The parameter type is DIRN, which specifies the discriminating level for the requested monitored parameter.
• DN	Monitored parameter with values equal to or greater than the level of LEV will be reported.

• UP	Monitored parameter with values equal or less than the value of LEV will be reported.
<LINKRCVRY>	Link recovery. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<DISTEXTN>	(Optional) Distance extension. The parameter type is DISTANCE_EXTENSION (distance extension).
• B2B	Buffer to buffer flow control
• NONE	No distance extension
<LINKCREDITS>	(Optional) Number of link credits. LINKCREDITS is an integer.
<MFS>	(Optional) Maximum frame size. MFS is an integer.
<ENCAP>	(Optional) Frame encapsulation type. The parameter type is ENCAP (frame encapsulation type).
• GFP_F	Generic framing procedure (GFP) frame mode
• GFP_T	GFP transparent mode
• HDLC	High-level data link control (HDLC) frame mode
• HDLC_LEX	HDLC LAN extension frame mode
• HDLC_X86	HDLC X.86 frame mode
<NAME>	(Optional) Identifies the port name. NAME is a string.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for <SOAKLEFT> are as follows: • When the port is in OOS, OOS_MT or IS state, the parameter will not appear. • When the port is in OOS_AINS state but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<FREQ>	(Optional) Parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73

• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52

• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83

• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88

• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) Parameter type is REACH (reach values).
• AUTOPROV	Autoprovisioning

• CX	Reach CX
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• VX	Reach VX
• ZX	Reach ZX
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.2 RTRV-<MOD1FICONPAYLOAD>

(Cisco ONS 15454) The Retrieve 1GFICON or 2GFICON (RTRV-<MOD1FICONPAYLOAD>) command returns Fibre Channel-specific settings for ports that have been configured to carry FICON traffic using the ENT-FICON command.

Usage Guidelines

The MXPP_MR_2.5G card only supports the GFP-T frame type.

See Table 27-1 on page 27-1 for supported modifiers by platform.

Category

Ports

Security

Retrieve

Input Format

RTRV-<MOD1FICONPAYLOAD>:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-1GFICON:CISCO:FAC-1-1:123;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:,,[<ROLE>],[<STATUS>]:[LINKRATE=<LINKRATE>],[LINKSTATE=<LINKSTATE>],
   [LINKRCVRY=<LINKRCVRY>],[DISTEXTN=<DISTEXTN>],
   [LINKCREDITS=<LINKCREDITS>],[MFS=<MFS>],[ENCAP=<ENCAP>],[NAME=<NAME>],
   [SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[FREQ=<FREQ>],[LOSSB=<LOSSB>]:
   <PST_PSTQ>,<SST>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1:,,WORK,ACT:LINKRATE=1GFICON,LINKSTATE=UP,LINKRCVRY=Y,
   DISTEXTN=NONE,LINKCREDITS=0,MFS=2148,ENCAP=GFP-T,NAME=\"FC PORT\",
   SOAK=32,SOAKLEFT=\"12-25\",FREQ=1550,LOSSB=LR-1:OOS-MA,MT"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<ROLE>	(Optional) The port role in Y-cable protection (WORK or PROT). The parameter type is SIDE, which is the role that the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) A port status in Y-cable protection (ACT or STBY). The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<LINKRATE>	The actual rate running on the Fibre Channel port. It can differ from the payload type provisioned. The parameter type is LINKRATE, which is the link rate on a Fibre Channel port.
• 1GFC	The rate is 1 G Fibre Channel.
• 1GFICON	The rate is 1 G FICON.
• 2GFC	The rate is 2 G Fibre Channel.
• 2GFICON	The rate is 2 G FICON.
• UNKNOWN	The rate is unknown.
• UNPLUGGED	The SFP is not plugged into the Fibre Channel port so the link rate cannot be detected.
<LINKSTATE>	Link state. The parameter type is DIRN, which specifies the discriminating level for the requested monitored parameter.
• DN	Monitored parameter with values equal to or greater than the level of LEV will be reported.
• UP	Monitored parameter with values equal or less than the value of LEV will be reported.

<LINKRCVRY>	Link recovery. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<DISTEXTN>	(Optional) Distance extension. The parameter type is DISTANCE_EXTENSION (distance extension).
• B2B	Buffer to buffer flow control
• NONE	No distance extension
<LINKCREDITS>	(Optional) Number of link credits. LINKCREDITS is an integer.
<MFS>	(Optional) Maximum frame size. MFS is an integer.
<ENCAP>	(Optional) Frame encapsulation type. The parameter type is ENCAP (frame encapsulation type).
• GFP_F	GFP frame mode
• GFP_T	GFP transparent mode
• HDLC	HDLC frame mode
• HDLC_LEX	HDLC LAN extension frame mode
• HDLC_X86	HDLC X.86 frame mode
<NAME>	(Optional) Identifies the port name. NAME is a string.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for <SOAKLEFT> are as follows: • When the port is in OOS, OOS_MT, or IS state, the parameter will not appear. • When the port is in OOS_AINS state but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<FREQ>	(Optional) Parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51

• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32

• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65

• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73

• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) Parameter type is REACH (reach values).
• AUTOPROV	Autoprovisioning
• CX	Reach CX
• DX	Reach DX

• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• VX	Reach VX
• ZX	Reach ZX
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.3 RTRV-<MOD2DWDMPAYLOAD>

(Cisco ONS 15454) The Retrieve 10GFC, 10GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, D1VIDEO, DV6000, ETRCLO, GIGE, HDTV, ISC1, ISC3, or PASSTHRU (RTRV-<MOD2DWDMPAYLOAD>) command retrieves the configuration parameter of a dense wavelength division multiplexing (DWDM) client.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Category

DWDM

Security

Retrieve

Input Format

RTRV-<MOD2DWDMPAYLOAD>:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-HDTV:MILAN:FAC-1-1:100;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

SID DATE TIME
M CTAG COMPLD
"<AIDUNIONID>,<AIDTYPE>:,,[<ROLE>],[<STATUS>]:[NAME=<NAME>],[LBCL=<LBCL>],
[OPT=<OPT>],[OPR=<OPR>],[FREQ=<FREQ>],[LOSSB=<LOSSB>]:<PSTPSTQ>,[<SST>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"FAC-1-1-1,HDTV:,,WORK,ACT:NAME=\"NY PORT\",LBCL=10.0,OPT=10.0,OPR=10.0,
FREQ=1550,LOSSB=LR-1:OOS-AU,AINS"
;

Output Parameters

<AIDUNIONID>	Access identifier from the "25.2 AidUnionId" section on page 25-11
<AIDTYPE>	A type of access identifier. The parameter type is MOD2DWDMPAYLOAD, which contains the payload types applicable to DWDM ports.
• 10GFC	10-Gigabit Fibre Channel payload

• 10GIGE	10-Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity (FICON) payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit FICON payload
• D1VIDEO	D1Video payload
• DV6000	DV6000 payload
• ETRCLO	ETR_CLO payload
• GIGE	Gigabit Ethernet payload
• HDTV	High definition television (HDTV) payload
• ISC1	ISC1 payload
• ISC3	ISC3 payload
• PASSTHRU	Any pass-through (2R) payload
<ROLE>	(Optional) The port role in Y-cable protection (WORK or PROT). The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) A port status in Y-cable protection (ACT or STBY). The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<NAME>	(Optional) Identifies the port name. NAME is a string.
<LBCL>	(Optional) Displays the current value of the laser current. LBCL is a float.
<OPT>	(Optional) Displays the current value of the transmitted optical power. OPT is a float.
<OPR>	(Optional) Displays the current value of the received optical power. OPR is a float.
<FREQ>	(Optional) Parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12

• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92

• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24

• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30

• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) Parameter type is REACH (reach values).
• AUTOPROV	Autoprovisioning
• CX	Reach CX

• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• VX	Reach VX
• ZX	Reach ZX
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.4 RTRV-<MOD_RING>

(Cisco ONS 15454, ONS 15327, ONS 15600) The Retrieve Bidirectional Line Switched Ring (RTRV-<MOD_RING>) command retrieves the bidirectional line switched ring (BLSR) information of the NE. A two-fiber or four-fiber BLSR can be retrieved.

Note Cisco ONS 15600 and ONS 15327 do not support four-fiber BLSR.

Usage Guidelines

Output examples:

4F BLSR:

"BLSR-N43AB::RINGID=N43AB,NODEID=3,MODE=4F,RVRTV=Y,RVTM=5.0,SRVRTV=Y, SRVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1,EASTPROT=FAC-12-1, WESTPROT=FAC-13-1"

2F BLSR:

"BLSR-N12EF::RINGID=N12EF,NODEID=2,MODE=2F,RVRTV=Y,RVTM=5.0, EASTWORK=FAC-5-1,WESTWORK=FAC-6-1"

- The following actions will return error messages:
  - If the system fails on getting IOR, a SROF (Get IOR Failed) error message is returned.
  - If the AID is invalid, an IIAC (Invalid AID) error message is returned.
  - If the BLSR does not exist, a SRQN (BLSR Does Not Exist) error message is returned.
- Only ALL, NULL, BLSR-ALL, or BLSR-RINGID is allowed for this command.
- A NULL AID defaults to the AID ALL.
- The list AID format is supported.

Category

BLSR

Security

Retrieve

Input Format

RTRV-<MOD_RING>:[<TID>]:[<AID>]:<CTAG>[::::];

Input Example

RTRV-BLSR:PETALUMA:ALL:123;

Input Parameters

<AID>	Access identifier from the "25.3 AidUnionId1" section on page 25-16. Identifies the BLSR of the NE. Only ALL, null, or a list of BLSR-# is allowed. A null value is equivalent to ALL.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "[<AID>]::[RINGID=<RINGID>],[NODEID=<NODEID>],[MODE=<MODE>],
   [RVRTV=<RVRTV>],[RVTM=<RVTM>],[SRVRTV=<SRVRTV>],[SRVTM=<SRVTM>],
   [EASTWORK=<EASTWORK>],[WESTWORK=<WESTWORK>],[EASTPROT=<EASTPROT>],
   [WESTPROT=<WESTPROT>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "BLSR-43::RINGID=43,NODEID=3,MODE=4F,RVRTV=Y,RVTM=5.0,SRVRTV=Y,SRVTM=5.0,
   EASTWORK=FAC-5-1,WESTWORK=FAC-6-1,EASTPROT=FAC-12-1,WESTPROT=FAC-13-1"
;
```

Output Parameters

<AID>	(Optional) Access identifier from the "25.3 AidUnionId1" section on page 25-16. Identifies the BLSR of the NE.
<RINGID>	(Optional) The BLSR ID of the NE. String of up to six characters. Valid characters are A-Z and 0-9.

<NODEID>	(Optional) The BLSR node ID of the NE. NODEID is a string and ranges from 0 to 31.
<MODE>	(Optional) Mode with which the command is to be implemented. Identifies the BLSR mode; either two-fiber or four-fiber. The parameter type is BLSR_MODE (BLSR mode).
• 2F	Two-fiber BLSR
• 4F	Four-fiber BLSR
<RVRTV>	Revertive mode. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	Revertive time. RVTM is not allowed to be set while RVRTV is N. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<SRVRTV>	The span revertive mode for four-fiber BLSR only. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SRVTM>	The span revertive time for four-fiber BLSR only. SRVTM is not allowed to be set while SRVRTV is N. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<EASTWORK>	East working facility. AID from the "25.15 FACILITY" section on page 25-33.
<WESTWORK>	West working facility. AID from the "25.15 FACILITY" section on page 25-33.
<EASTPROT>	East protecting facility. AID from the "25.15 FACILITY" section on page 25-33.
<WESTPROT>	West protecting facility. AID from the "25.15 FACILITY" section on page 25-33.

21.5 RTRV-<OCN_TYPE>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve OC3, OC12, OC48, or OC192 command retrieves the attributes (for example, service parameters) and the state of an OC-N facility.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Both RINGID and BLSRTYPE identify the OC-N port connected with a BLSR. These attributes are only presented for the OC-12, OC-48, and OC-192 ports within a BLSR connection. The RTRV-<MOD_RING> command with the AID BLSR-RINGID can provide more information about a BLSR.

Note This command does not show the WVLEN attribute if the OC-N port has a zero value.

UNI-C DCC provisioning notes:

- The attributes DCC(Y/N) and mode (SONET/SDH) remain the same in the ED/RTRV-OCN commands when the DCC is used for UNI-C, in which case the port attribute UNIC is enabled (UNIC=Y).
- UNI-C DCC termination cannot be deleted by the regular DCC deprovisioning command.
- If the DCC is created under regular SONET provisioning, and this port is used by UNI-C, the port is converted as an UNI-C DCC automatically.
- Deprovisioning UNI-C IF/IB IPCC will free up DCC termination automatically.
- The parameters ALSMODE, ALSRCINT, and ALSRCPW are only applicable for OC3-8, OC19,2 and OC48ELR cards.
- SSMRCV will display the quality of the individual port.
- SSM selectable (ADMSSM) and synchronization messaging for output (SYNCMSGOUT) are not applicable to the ONS 15600.
- J0 Support (EXPTRC, TRC, TRCMODE and TRCFORMAT parameters) are supported by DWDM cards with an OC-n payload, the MRC-12 card, and the OC192-XFP card. J0 is not supported by OC3-8, OC-12, OC-48, OC-192, and other SONET optical cards.

Category Ports

Security Retrieve

Input Format RTRV-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::::];

Input Example RTRV-OC48:PENNGROVE:FAC-6-1:236;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
  "<AID>:,,[<ROLE>],[<STATUS>]:[DCC=<DCC>],[AREA=<AREA>],[TMGREF=<TMGREF>],
  [SYNCMSG=<SYNCMSG>],[SENDDUS=<SENDDUS>],[PJMON=<PJMON>],
  [SFBER=<SFBER>],[SDBER=<SDBER>],[MODE=<MODE>],[WVLEN=<WVLEN>],
  [RINGID=<RINGID>],[BLSRTYPE=<BLSRTYPE>],[MUX=<MUX>],[UNIC=<UNIC>],
  [SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[SSMRCV=<SSMRCV>],[OSPF=<OSPF>],
  [LDCC=<LDCC>],[NAME=<NAME>],[LBCL=<LBCL>],[OPT=<OPT>],[OPR=<OPR>],
  [EXPTRC=<EXPTRC>],[TRC=<TRC>],[TRCMODE=<TRCMODE>],
  [TRCFORMAT=<TRCFORMAT>],[ADMSSM=<ADMSSM>],
  [SENDDUSFF=<SENDDUSFF>],[AISONLPBK=<AISONLPBK>],
  [FREQ=<FREQ>],[LOSSB=<LOSSB>],[FOREIGNFEND=<FOREIGNFEND>],
  [FOREIGNIPADDRESS=<FOREIGNIPADDRESS>],:<PSTPSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
  "FAC-6-1:,,WORK,ACT:DCC=Y,AREA=10.92.63.1,TMGREF=N,SYNCMSG=N,SENDDUS=N,
  PJMON=48,SFBER=1E-4,SDBER=1E-6,MODE=SINGLESHELF,WVLEN=1310.00,RINGID=43,
  BLSRTYPE=WESTWORK,MUX=E2,UNIC=Y,
  SOAKLEFT=\"12-25\",SSMRCV=STU,OSPF=Y,LDCC=Y,NAME=\"OCN PORT\",LBCL=10.0,
  OPT=10.0,OPR=10.0,EXPTRC=\"AAA\",TRC=\"AAA\",TRCMODE=MAN,
  TRCFORMAT=16-BYTE,ADMSSM=PRS,SENDDUSFF=N,AISONLPBK=AIS_ON_LPBK_ALL,
  FREQ=1550,LOSSB=LR-1,FOREIGNFEND=Y,
  FOREIGNIPADDRESS=10.92.63.44,:OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<ROLE>	(Optional) An OC-N port role. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) An OC-N port status. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<DCC>	(Optional) Indicates whether or not the Section data communications channel (DCC) is to be used. The parameter type is EXT_RING, which indicates whether the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<AREA>	(Optional) Area ID. Shows up only if the DCC is enabled. AREA is a string.

<TMGREF>	(Optional) The termination to be used, whether primary or secondary. Identifies if an OC-N port has a timing reference. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SYNCMSG>	Synchronization status message. The parameter type is EXT_RING, which indicates whether the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<SENDDUS>	(Optional) The facility will send the DUS (Do not use for Synchronization) value in 0x0f bits pattern as the synchronization status message for that facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<PJMON>	(Optional) Identifies an OC-N port PJMON. PJMON is an integer. It defaults to 0 (zero). Set a valid STS number of the optical port. **Note** The PJMON number displayed in TL1 interface does not correspond to the PJVC4MON number in CTC, but instead corresponds to the STS number of the optical port.
<SFBER>	(Optional) An OC-N port signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) An OC-N port signal degrade threshold. Defaults 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<MODE>	(Optional) Indicates the AID mode to access shelf identifier objects. Defaults to SINGLESHELF. This field is always set to MULTISHELF in the case of DWDM nodes with more than one shelf managed. Parameter type is SHELF_MODE which is the NE mode.
• SINGLESHELF	The NE contains only one shelf and the AID representation does not consider the shelf identifier for command requests/response and autonomous reports.

• MULTISHELF	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style.
• MULTISHELFETH	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style. The shelves are connected by means of an external Ethernet switch.
<WVLEN>	(Optional) An OC-N port wavelength in nanometers. For example, WVLEN=1310.00 means it operates at 1310 nm in the DWDM application. WVLEN is a float.
<RINGID>	(Optional) The BLSR RINGID with which the port is connected. RINGID ranges from 0 to 9999. RINGID is an integer.
<BLSRTYPE>	(Optional) The BLSR type with which the port is connected. The parameter type is BLSR_TYPE, which is the BLSR type of an OC-N port.
• EASTPROT	The OC-N port is an east protecting port.
• EASTWORK	The OC-N port is an east working port.
• WESTPROT	The OC-N port is an west protecting port.
• WESTWORK	The OC-N port is an west working port.
<MUX>	(Optional) BLSR extension byte. The parameter type is MUX_TYPE, which is the BLSR extension byte.
• E2	E2 byte (orderwire)
• F1	F1 byte (user)
• K3	K3 byte
• Z2	Z2 byte
<UNIC>	(Optional) Indicates if the port connects to the UCP. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1-minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for <SOAKLEFT> are as follows: • When the port is in OOS, OOS_MT, or IS state, the parameter will not appear. • When the port is in OOS_AINS but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.

<SSMRCV>	(Optional) Displays the quality of the individual port. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<OSPF>	(Optional) The Open Shortest Path First protocol. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<LDCC>	(Optional) The Line DCC connection on the port. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<NAME>	(Optional) Name. NAME is a string.
<LBCL>	(Optional) Displays the current value of the laser current. LBCL is a float.
<OPT>	(Optional) Displays the current value of the transmitted optical power. OPT is only displayed for DWDM cards. OPT is a float.
<OPR>	(Optional) Received optical power. OPR is a float.
<EXPTRC>	(Optional) Expected path trace content. EXPTRC is a string.
<TRC>	(Optional) Path trace message to be transmitted. TRC is a string.
<TRCMODE>	(Optional) Path trace mode. Applicable only to STS-level Paths in SONET. Defaults to the OFF mode. The parameter type is TRCMODE (trace mode).
• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.
• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on alarm indication signal (AIS) and remote defect indication (RDI) if TIM-P is detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• OFF	Turn off path trace capability. Nothing will be reported.
<TRCFORMAT>	(Optional) Trace message size. The parameter type is TRCFORMAT (trace format).

• 1-BYTE	1-byte trace message
• 16-BYTE	16-byte trace message
• 64-BYTE	64-byte trace message
• Y	Enable an attribute.
<ADMSSM>	(Optional) SSM selectable value. Only displayed when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<SENDDUSFF>	(Optional) Indicates that the facility will send the DUS value in 0xff bits pattern as the synchronization status message for that facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<AISONLPBK>	(Optional) AIS on loopback. The parameter type is AIS_ON_LPBK, which indicates whether AIS is sent on a loopback.
• AIS_ONLPBK_FACILITY	AIS is sent on facility loopbacks.
• AIS_ON_LPBK_ALL	AIS is sent on all loopbacks.
• AIS_ON_LPBK_OFF	AIS is not sent on loopbacks.
• AIS_ON_LPBK_TERMINAL	AIS is sent on terminal loopbacks.
<FREQ>	(Optional) Parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12

• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92

• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24

• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30

• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) Parameter type is REACH (reach values).
• AUTOPROV	Autoprovisioning
• CX	Reach CX

• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• VX	Reach VX
• ZX	Reach ZX
<FOREIGNFEND>	(Optional) Indicates whether the far-end NE on the DCC is a foreign NE. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<FOREIGNIPADDRESS>	(Optional) The IP address of the far-end NE on the DCC. Used only if FOREIGNFEND is Y. FOREIGNIPADDRESS is a string.
<PST_PSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download

• UAS	Unassigned
• UEQ	Unequipped

21.6 RTRV-<PATH>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, VT1, or VT2 (RTRV-<PATH>) command retrieves the attributes associated with an STS/VT path.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Supported AIDs are: ALL, SLOT-N (N=1,2,...,ALL), and STS/VT-specific AIDs.

The SFBER, SDBER, RVRTV, RVTM, SWPDIP, HOLDOFFTIMER, and UPSRPTHSTATE parameters only apply to path protection configurations.

The path trace message is a 64 character string including the terminating CR (carriage return) and LF (line feed) that is transported in the J1 byte of the SONET STS Path overhead.

The EXPTRC indicates that the contents of the expected incoming path trace are provisioned by the user in the ED-STS_PATH command. The TRC indicates the contents of the outgoing path trace message. The INCTRC indicates the contents of the incoming path trace message.

The path trace mode has three modes: OFF, MANUAL, and AUTO. The mode defaults to OFF. The MANUAL mode performs the comparison of the received string with the user entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, the TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

When the expected string is queried under the OFF path trace mode, the expected string is a copy of the provisioned string or NULL. When an expected string is queried under the MANUAL path trace mode, the expected string is a copy of the user entered string. When an expected string is queried under the AUTO path trace mode, the expected string is a copy of the acquired received string or NULL if the string has not been acquired.

When the incoming string is queried under the OFF path trace mode, the incoming string is NULL. When an incoming string is queried under the MANUAL or AUTO path trace mode, the incoming string is a copy of the received string or NULL if the string has not been received.

J1 (EXPTRC) is implemented on the DS1/DS1N, DS3E/DS3NE, DS3XM, EC1, DS3/EC1-48, OC3, OC48AS, OC192, MRC-12, and OC192-XFP cards.

TRC and INCTRC are supported on DS1N, DS3NE, DS3/EC1-48, and DS3XM cards.

The following actions will result in error messages:

- If you send this command while BLSRPTHTYPE=PCA, whether there is a BLSR switch or not, the protection channel access (PCA) path J1/C2 data will be returned (if there is PCA circuit on the AID).
- Sending this command with an STS AID that does not have circuits and where no BLSR is switched on the STS will return an error message.

Note

- An optional input parameter, BLSRPTHTYPE, is introduced into this command to provide more options to retrieve the J1/C2 of a particular BLSR path. This field is valid only if the queried AID port has BLSR. The BLSRPTHTYPE defaults to the "non-pca" path type if the BLSR is switched, or defaults to all BLSR path types if there is no BLSR switching.
- An optional output parameter, BLSRPTHSTATE, is introduced into this command output. Each J1/C2 output data of this command will include the BLSR path state information.
- After BLSR switching, the J1/IPPM/C2 data can be retrieved over the protection path. J1 trace string, trace mode, or threshold is not allowed on the protection path.
- HOLDOFFTIMER is not specific to a path. Instead, it is applicable to the path protection selector.
- VT1.5 J2 path trace provisioning is supported on the DS3XM-12 card and the ONS 15454 CE-100T-8 card VT1.5 path using the ED-VT1, RTRV-VT1, and RTRV-PTHTRC-VT1 commands. The ONS 15310-CL CE-100T-8 card supports J2 path trace.
- Test access is not supported on the ONS 15310-CL. J2 is not supported on the 15310-CL-CTX card of the ONS 15310-CL. However, the CE-100T-8 card supports J2 in the ONS 15310-CL.
- For the selector path on a BLSR, the SWPDIP path attribute is not editable and is always in the ON state.
- SFBER and SDBER are applied for the ONS 15310-CL and the ONS 15454 when the ONS 15454 has an XC-VXC-10G card.
- On the ONS 15310-MA, J2 path trace is supported on DS1 ports only. J2 path trace is not supported on ONS 15310-MA OCn ports and EC1 ports.

Category

Paths

Security

Retrieve

Input Format

RTRV-<PATH>:[<TID>]:<AID>:<CTAG>[:::BLSRPTHTYPE=<BLSRPTHTYPE>][:];

Input Example

RTRV-STS3C:FERNDALE:STS-2-1-4:238:::BLSRPTHTYPE=NON-PCA;

Input Parameters

<AID>	Access identifier from the "25.11 CrossConnectId1" section on page 25-24. Must not be null.
<BLSRPTHTYPE>	The BLSR path type only if the port is on the BLSR. No value or a null value defaults to NON-PCA. Applicable only to STS-level paths in SONET. The parameter type is BLSR_PTH_TYPE, which is the BLSR path type only if the port is on the BLSR.
• NON-PCA	The AID is on the working path, or the cross-connection card protection path.
• PCA	The AID is on the BLSR PCA path.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[LEVEL=<LEVEL>],[SFBER=<SFBER>],[SDBER=<SDBER>],[RVRTV=<RVRTV>],
   [RVTM=<RVTM>],[SWPDIP=<SWPDIP>],[HOLDOFFTIMER=<HOLDOFFTIMER>],
   [EXPTRC=<EXPTRC>],[TRC=<TRC>],[INCTRC=<INCTRC>],[TRCMODE=<TRCMODE>],
   [TRCFORMAT =<TRCFORMAT>],[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],
   [UPSRPTHSTATE=<UPSRPTHSTATE>],[C2=<C2>],
   [BLSRPTHSTATE=<BLSRPTHSTATE>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "STS-2-1-4::LEVEL=STS1,SFBER=1E-3,SDBER=1E-5,RVRTV=Y,RVTM=1.0,SWPDIP=Y,
   HOLDOFFTIMER=2000,EXPTRC="EXPTRCSTRING",TRC="TRCSTRING",
   INCTRC="INCTRCSTRING",TRCMODE=AUTO,TRCFORMAT=64-BYTE,TACC=8,
   TAPTYPE=DUAL,UPSRPTHSTATE=ACT,C2=0X04,
   BLSRPTHSTATE=PROTPTHACT:OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.11 CrossConnectId1" section on page 25-24.
<LEVEL>	(Optional) The rate of the cross-connect. Indicates the rate of the cross-connected channel. Applicable only to the STS path in SONET. The parameter type is PATH, which is the modifier for path commands.
• STS1	Synchronous transport signal/module level 1 (51.84 Mbps)
• STS3C	Synchronous transport signal/module level 3 concatenated (155.52 Mbps)
• STS6C	Synchronous transport signal/module level 6 (311.04 Mbps)
• STS9C	Synchronous transport signal/module level 9 concatenated (466.56 Mbps)
• STS12C	Synchronous transport signal/module level 12 concatenated (622.08 Mbps)
• STS18C	Synchronous transport signal/module level 18 concatenated (933.12 Mbps)
• STS24C	Synchronous transport signal/module level 24 concatenated (1244.16 Mbps)
• STS36C	Synchronous transport signal/module level 36 concatenated (1866.24 Mbps)
• STS48C	Synchronous transport signal/module level 48 concatenated (2488.32 Mbps)
• STS192C	Synchronous transport signal/module level 192 concatenated (9953.28 Mbps)

<SFBER>	(Optional) An STS path signal failure threshold that only applies to path protection. Applicable only to STS-level paths in SONET. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) An STS path signal degrade threshold that only applies to path protection. Applicable only to STS-level paths in SONET. Defaults 1E-6. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<RVRTV>	Revertive mode. Only applies to path protection. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	Revertive time. Only applies to path protection. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<SWPDIP>	(Optional) Switch on PDI-P. Applicable only to STS-level paths in SONET. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<HOLDOFFTIMER>	(Optional) Hold off timer. HOLDOFFTIMER is an integer.
<EXPTRC>	(Optional) Expected path trace content. Indicates the expected path trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR (carriage return) and LF (line feed). Applicable to STS-level paths in SONET. Defaults to NULL when a path protection path is created. Supported on the CE-100T-8 card (ONS 15310-CL) provisioned in mapper mode. EXPTRC is a string.

<TRC>	(Optional) The path trace message to be transmitted. The trace byte (J1) continuously transmits a 64-byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (hex 00) and CR and LF. A null value defaults to the NE transmitting null characters (Hex 00). Applicable to STS-level paths in SONET. Applicable to VT-level paths for the DS3XM-12 card on the ONS 15454. Supported on the CE-100T-8 card (ONS 15310-CL) provisioned in mapper mode. TRC is a string.
<INCTRC>	(Optional) The incoming path trace message contents. INCTRC is any combination of 64 characters. Applicable only to STS-level paths in SONET (STSn). Defaults to null when a path protection path is created. Supported on the CE-100T-8 card (ONS 15310-CL) provisioned in mapper mode. INCTRC is a string.
<TRCMODE>	(Optional) Path trace mode. Applicable only to STS-level paths in SONET (STSn). Defaults to OFF when a path protection path is created. Supported on the CE-100T-8 card (ONS 15310-CL) provisioned in mapper mode. The parameter type is TRCMODE (trace mode).
• AUTO	Use the previously received path trace string as the expected string (not applicable to MXP_2.5G_10G and TXP_MR_10G cards).
• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIM-P detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P detected.
• OFF	Turn off path trace capability. Nothing will be reported.
<TRCFORMAT>	(Optional) Trace message size. The parameter type is TRCFORMAT (trace format).
• 1-BYTE	1-byte trace message
• 16-BYTE	16-byte trace message
• 64-BYTE	64-byte trace message
• Y	Enable an attribute.
<TACC>	(Optional) Test access. Indicates whether the digroup being provisioned is to be used as a test access digroup. Defaults to N. Not applicable to the ONS 15310-CL.
<TAPTYPE>	(Optional) TAP type. Not applicable to the ONS 15310-CL. The parameter type is TAPTYPE, which is the test access point type
• DUAL	Dual FAD
• SINGLE	Single FAD
<UPSRPTHSTATE>	(Optional) Indicates whether a given AID is the working or standby path of a path protection cross-connect. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.

<C2>	(Optional) The C2 byte hex code. Applicable only to STS-level paths in SONET (STSn). The parameter type is C2_BYTE, which is the C2 byte hex code.
• 0X00	Unequipped
• 0X01	Equipped Non-Specific payload
• 0X02	VT-Structured STS-1 synchronous payload envelope (SPE)
• 0X03	Locked VT Mode
• 0X04	Asynchronous Mapping for DS3
• 0X12	Asynchronous Mapping for DS4NA
• 0X13	Mapping for ATM
• 0X14	Mapping for DQDB
• 0X15	Asynchronous Mapping for FDDI
• 0X16	HDLC-Over-SONET Mapping
• 0XE1	VT-structured STS-1 SPE with 1VTx payload defect
• 0XE2	VT-structured STS-1 SPE with 2VTx payload defects
• 0XE3	VT-structured STS-1 SPE with 3VTx payload defects
• 0XE4	VT-structured STS-1 SPE with 4VTx payload defects
• 0XE5	VT-structured STS-1 SPE with 5VTx payload defects
• 0XE6	VT-structured STS-1 SPE with 6VTx payload defects
• 0XE7	VT-structured STS-1 SPE with 7VTx payload defects
• 0XE8	VT-structured STS-1 SPE with 8VTx payload defects
• 0XE9	VT-structured STS-1 SPE with 9VTx payload defects
• 0XEA	VT-structured STS-1 SPE with 10VTx payload defects
• 0XEB	VT-structured STS-1 SPE with 11VTx payload defects
• 0XEC	VT-structured STS-1 SPE with 12VTx payload defects
• 0XED	VT-structured STS-1 SPE with 13VTx payload defects
• 0XEE	VT-structured STS-1 SPE with 14VTx payload defects
• 0XEF	VT-structured STS-1 SPE with 15VTx payload defects
• 0XF0	VT-structured STS-1 SPE with 16VTx payload defects
• 0XF1	VT-structured STS-1 SPE with 17VTx payload defects
• 0XF2	VT-structured STS-1 SPE with 18VTx payload defects
• 0XF3	VT-structured STS-1 SPE with 19VTx payload defects
• 0XF4	VT-structured STS-1 SPE with 20VTx payload defects
• 0XF5	VT-structured STS-1 SPE with 21VTx payload defects
• 0XF6	VT-structured STS-1 SPE with 22VTx payload defects
• 0XF7	VT-structured STS-1 SPE with 23VTx payload defects
• 0XF8	VT-structured STS-1 SPE with 24VTx payload defects
• 0XF9	VT-structured STS-1 SPE with 25VTx payload defects
• 0XFA	VT-structured STS-1 SPE with 26VTx payload defects
• 0XFB	VT-structured STS-1 SPE with 27VTx payload defects
• 0XFC	VT-structured STS-1 SPE with 28VTx payload defects
• 0XFE	O.181 Test Signal (TSS1 to TSS3) Mapping

• 0XFF	Reserved, however, C2 is 0XFF if an AIS-L is being generated by an optical card or cross-connect downstream.
<BLSRPTHSTATE>	(Optional) The BLSR path state only if the port is on the BLSR. Applicable only to STS-level paths in SONET (STSn). The parameter type is BLSR_PTH_STATE, which is the BLSR path state only if the port is on the BLSR.
• PCAPTHACT	Indicates the BLSR is not switched and its PCA path is in the active state.
• PCAPTHSTB	Indicates the BLSR is switched and its PCA path is in the standby state.
• PROTPTHACT	Indicates the BLSR is switched and its protection path is in the active state.
• WKGPTHACT	Indicates the BLSR is not switched and its working path is in the active state.
• WKGPTHSTB	Indicates the BLSR is switched and its working path is in the standby state.
<PST_PSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.7 RTRV-10GIGE

(Cisco ONS 15454) The Retrieve 10GIGE (RTRV-10GIGE) command retrieves the 10 Gbps-specific parameters for a port that has been configured to support the Gigabit Ethernet payload with the ENT-10GIGE command.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format

```
RTRV-10GIGE:[<TID>]:<AID>:<CTAG>[::::];
```

Input Example

```
RTRV-10GIGE:TID:FAC-1-1:100;
```

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:,,[<ROLE>],[<STATUS>]:[NAME=<NAME>],[MACADDR=<MACADDR>],
   [LBCL=<LBCL>],[OPT=<OPT>],[OPR=<OPR>],[FREQ=<FREQ>],
   [LOSSB=<LOSSB>]:<PSTPSTQ>,[<SST>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-6-1:,,WORK,ACT:NAME=\"NY PORT\",MACADDR=00-0E-AA-BB-CC-FF,LBCL=10.0,
   OPT=10.0,OPR=10.0,FREQ=1550,LOSSB=SX:OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<ROLE>	(Optional) The port role in Y-cable protection (WORK or PROT). The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) A port status in Y-cable protection (ACT or STBY). The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<NAME>	(Optional) Port name. NAME is a string.
<MACADDR>	(Optional) The MAC address for the 10-Gigabit Ethernet payload. MACADDR is a string.

<LBCL>	(Optional) Displays the current value of the laser current. LBCL is a float.
<OPT>	(Optional) Displays the current value of the transmitted optical power. OPT is a float.
<OPR>	(Optional) Displays the current value of the received optical power. OPR is a float.
<FREQ>	(Optional) Parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56

• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15

• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18

• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47

• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH (reach values).
• AUTOPROV	Autoprovisioning
• CX	Reach CX
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• VX	Reach VX
• ZX	Reach ZX
<PST_PSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous

• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.8 RTRV-ALM-<MOD2ALM>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Alarm for 1GFC, 1GFICON, 2GFC, 2GFICON, CLNT, DS1, E100, E1000, E3, E4, EC1, FSTE, G1000, GFPOS, GIGE, OC12, OC192, OC3, OC48, OCH, OMS, OTS, POS, STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, T1, T3, UDCDCC, UDCF, VC12, VC3, VCG, VT1, VT2, or WLEN (RTRV-ALRM-<MOD2ALM>) command retrieves and sends the current status of alarm conditions. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Note VT1-n-n-n replaces PS_VT1-n-n-n for the VT1 alarm AID.

Note The AIDTYPE shows STS1 for STS alarms.

Category

Fault

Security

Retrieve

Input Format

RTRV-ALM-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,];

Input Example

RTRV-ALM-OC12:ELDRIDGE:FAC-5-1:225::MN,SD,SA;

Input Parameters

<AID>	Access identifier from the "25.2 AidUnionId" section on page 25-11. Must not be null.
<NTFCNCDE>	Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,[<OCRDAT>],
   [<OCRTM>],,:[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-5-1,OC12:MJ,SD,SA,09-05,12-30-20,,:\"BER AT SIGNAL DEGRADE LEVEL\","
;
```

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1.
<AIDTYPE>	(Optional) Type of access identifier. The parameter type is MOD2ALM (alarm type).
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 1GISC3	1 Gbps ISC3 compatible
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• CLNT	Client facility for MXP/TXP cards
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GFPOS	Generic framing protocol over packet over SONET virtual port alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1Gbps ISC3 peer
• ISC3PEER2G	2Gbps ISC3 peer
• ISC3PEER2R	1Gbps ISC1, ISC2, and ISC3 compatibility
• ISCCOMPAT	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel

• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• T1	T1 alarm
• T3	T3 alarm
• UDCDCC	UDCDCC alarm
• UDCF	UCDF alarm
• VCG	Virtual Concatenation Group alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• WLEN	Wavelength Path Provisioning
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.

<OCRDAT>	(Optional) Date when the specific event or violation occurred.
<OCRTM>	(Optional) Time when the specific event or violation occurred.

21.9 RTRV-ALM-ALL

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Alarm All (RTRV-ALM-ALL) command retrieves and sends the current status of all active alarm conditions. The alarm condition or severity to be retrieved is specified using the input parameters as a filter.

Usage Guidelines

According to Telcordia GR-833, the RTRV-ALM-ALL command only reports EQPT, COM, and rr (T1, T3, OCN, EC1, STSN, VT1, DS1, E100, E1000, G1000, ML-Series, TXP, and MXP) alarms. To retrieve all the NE alarms, issue all of the following commands:

RTRV-ALM-ALL
RTRV-ALM-BITS
RTRV-ALM-ENV
RTRV-ALM-SYNCN

Category

Fault

Security

Retrieve

Input Format

RTRV-ALM-ALL:[<TID>]:[<AID>]:<CTAG>::[<NTFCNCDE>],[<CONDITION>],[<SRVEFF>][,,,];

Input Example

RTRV-ALM-ALL:COTATI:ALL:229::MN,PWRRESTART,NSA;

Input Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. A null value is equivalent to ALL. AID is a string.
<NTFCNCDE>	Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.

<CONDITION>	The type of alarm condition. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.

Output Format

SID DATE TIME
M CTAG COMPLD
"[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>],[<AIDDET>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"SLOT-2,EQPT:MN,PWRRESTART,NSA,,,,:\"POWER FAIL RESTART\",DS1-14"
;

Output Parameters

<AID>	(Optional) Access identifier from the "25.1 ALL" section on page 25-1.
<AIDTYPE>	(Optional) Type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	Building integrated timing supply (BITS) alarm
• CLNT	Client facility for multiplexer (MXP) and transponder (TXP) cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3i-N-12 alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm

• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	Packet over SONET (POS) port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.

• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<DESC>	(Optional) A condition description. DESC is a string.
<AIDDET>	(Optional) AIDDET uses the same addressing rules as the AID, but specifies AID type and additional details about the entity being managed. The supplementary equipment identification.

21.10 RTRV-ALM-BITS

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Alarm Building Integrated Timing Supply (RTRV-ALM-BITS) command retrieves and sends the current status of alarm conditions associated with the BITS facility. The alarm condition or severity retrieved is specified using the input parameters as a filter.

Usage Guidelines None

Category Synchronization

Security Retrieve

Input Format RTRV-ALM-BITS:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,];

Input Example RTRV-ALM-BITS:ELVERANO:BITS-1:228::CR,LOS,SA;

Input Parameters

<AID>	Access identifier from the "25.6 BITS" section on page 25-17. Must not be null.
<NTFCNCDE>	Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	The condition type for an alarm or reported event. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "BITS-1,BITS:CR,LOS,SA,,,,:\"LOSS OF SIGNAL\","
;
```

Output Parameters

<AID>	(Optional) Access identifier from the "25.6 BITS" section on page 25-17.
<AIDTYPE>	(Optional) Type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm

• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3i-N-12 alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm

• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<DESC>	(Optional) A condition description. DESC is a string.

21.11 RTRV-ALM-ENV

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Alarm Environment (RTRV-ALM-ENV) command retrieves the environmental alarms.

Usage Guidelines None

Category Environment

Security Retrieve

Input Format RTRV-ALM-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>];

Input Example

RTRV-ALM-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;

Input Parameters

<AID>	Access identifier from the "25.13 ENV" section on page 25-30. Must not be null. **Note** For RTRV-ALM-ENV, only ENV-IN-{1-4} is a valid AID for ONS 15454 and only ENV-IN-{1-6} is a valid AID for ONS 15327. ENV-OUT-{1,6} is not a valid AID for RTRV-ALM-ENV.
<NTFCNCDE>	Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	The alarm type for the environmental alarm. A null value is equivalent to ALL. The parameter type is ENV_ALM, which is the environmental alarm types.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMAJOR	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail, or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High airflow
• HIHUM	High humidity

• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnected bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ringing generator major
• RINGGENMN	Ringing generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>:<NTFCNCDE>,<ALMTYPE>,[<OCRDAT>],[<OCRTM>],[<DESC>]"
;

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "ENV-IN-1:MJ,OPENDR,08-01,14-25-59,\"OPEN DOOR\""
;
```

Output Parameters

<AID>	Access identifier from the "25.13 ENV" section on page 25-30.
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<ALMTYPE>	The alarm type for the environmental alarm. A null value is equivalent to ALL. The parameter type is ENV_ALM, which is the environmental alarm types.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMAJOR	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail, or gas monitor fail

• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High airflow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnected bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ringing generator major
• RINGGENMN	Ringing generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure

OCRDAT	(Optional) Date.
OCRTM	(Optional) Time.
DESC	(Optional) A condition description. DESC is a string.

21.12 RTRV-ALM-EQPT

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Alarm Equipment (RTRV-ALM-EQPT) command retrieves and sends the current status of alarm conditions associated with the equipment units. The alarm condition or severity to be retrieved is specified using the input parameters as a filter.

Usage Guidelines

None

Category

Equipment

Security

Retrieve

Input Format

RTRV-ALM-EQPT:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,];

Input Example

RTRV-ALM-EQPT:TWOROCK:SLOT-7:227::MJ,HITEMP,NSA;

Input Parameters

<AID>	Access identifier from the "25.14 EQPT" section on page 25-31. Must not be null.
<NTFCNCDE>	Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.

<CONDTYPE>	The condition type for an alarm or a reported event. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,
   [<OCRDAT>],[<OCRTM>],,,:[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "SLOT-7,EQPT:MJ,HITEMP,NSA,08-01,14-25-59,,:\"HI TEMPERATURE\","
;
```

Output Parameters

<AID>	(Optional) Access identifier from the "25.14 EQPT" section on page 25-31.
<AIDTYPE>	(Optional) Type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm

• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.

• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date.
<OCRTM>	(Optional) Time.
<DESC>	(Optional) A condition description. DESC is a string.

21.13 RTRV-ALM-SYNCN

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Alarm Synchronization (RTRV-ALM-SYNCN) command retrieves and sends the current status of alarm conditions associated with a synchronization facility. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Usage Guidelines None

Category Synchronization

Security Retrieve

Input Format RTRV-ALM-SYNCN:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,];

Input Example RTRV-ALM-SYNCN:FULTON:SYNC-NE:226::CR,FAILTOSW,SA;

Input Parameters

<AID>	Access identifier from the "25.28 SYNC_REF" section on page 25-48. Must not be null.
<NTFCNCDE>	Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	The condition type for an alarm or a reported event. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,
   [<OCRDAT>],[<OCRTM>],,:[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "SYNC-NE,SYNCN:CR,FAILTOSW,SA,08-01,
   14-25-59,,:\"FAILURE TO SWITCH TO PROTECTION\","
;
```

Output Parameters

<AID>	Access identifier from the "25.26 SYN" section on page 25-47.
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm

• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm

• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date.
<OCRTM>	(Optional) Time.
<DESC>	(Optional) A condition description. DESC is a string.

21.14 RTRV-ALMTH-<MOD2>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA) The Retrieve Alarm Threshold for 10GFC, 10GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, CLNT, D1VIDEO, DS1, DV6000, E1, E3, E4, EC1, ESCON, ETRCLO, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, OC12, OC192, OC3, OC48, OCH, OMS, OTS, POS, STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, T1, T3, VC12, VC3, VT1, or VT2 (RTRV-ALMTH-<MOD2>) command retrieves the alarm threshold values. The only applicable MOD2 values are OC3, OC12, OC48, OC192, OCH, OMS, and OTS.

Usage Guidelines None

Category Fault

Security Retrieve

Input Format RTRV-ALMTH-<MOD2>:[<TID>]:<AID>:<CTAG>::[<CONDTYPE>][,,::];

Input Example RTRV-ALMTH-{MOD2}::CHAN-2-2:1::OPT-HIGH;

Input Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. Must not be null.
<CONDTYPE>	Alarm threshold. A null value is equivalent to ALL. The parameter type is ALM_THR, which is the alarm threshold list for MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX-O, 32DMX-O, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards.
• BATV-EHIGH	Battery Voltage—Extremely High
• BATV-ELOW	Battery Voltage—Extremely Low
• BATV-HIGH	Battery Voltage—High
• BATV-LOW	Battery Voltage—Low
• GAIN-HDEG	Gain not reached—High Degrade Threshold
• GAIN-HFAIL	Gain not reached—High Failure Threshold
• GAIN-LDEG	Gain not reached—Low Degrade Threshold
• GAIN-LFAIL	Gain not reached—Low Failure Threshold
• LBCL-HIGH	Laser Bias current in microA as one tenth of a percent. High Warning Threshold, Low Warning Threshold. Measured value (0.0 percent, 100.0 percent).
• OPR-HIGH	Receive power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPR-LOW	Receive power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPT-HIGH	Transmit power in one tenth of a microW. Measured value (–40.0 dBm, +30.0 dBm).
• OPT-LOW	Transmit power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPWR-HDEG	Optical Power—High Degrade Threshold
• OPWR-HFAIL	Optical Power—High Failure Threshold
• OPWR-LDEG	Optical Power—Low Degrade Threshold
• OPWR-LFAIL	Optical Power—Low Failure Threshold
• VOA-HDEG	VOA Attenuation—High Degrade Threshold
• VOA-HFAIL	VOA Attenuation—High Failure Threshold

• VOA-LDEG	VOA Attenuation—Low Degrade Threshold
• VOA-LFAIL	VOA Attenuation—Low Failure Threshold

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,<MOD>:<CONDTYPE>,,,<THLEVEL>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "CHAN-2-2,OCH:OPT-HIGH,,,20"
;
```

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1.
<MOD>	AID type. The parameter type is MOD2, which is the line/path modifier.
• 10GFC	10 Gigabit Fibre Channel
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1 Gigabit Fibre Channel
• 1GFICON	1 Gigabit FICON
• 1GISC3	1 Gbps ISC3 compatible
• 2GFC	2 Gigabit Fibre Channel
• 2GFICON	2 Gigabit FICON
• 2GISC3	2 Gbps ISC3 compatible
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• D1VIDEO	D1 video
• DS1	DS1 line of a DS3XM card
• DS3I	DS3I line
• DV6000	DV6000
• EC1	EC1 facility
• ESCON	ESCON
• ETRCLO	ETR_CLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over packet over SONET. Virtual Ports partitioned using GFP's multiplexing capability.
• GIGE	GIG Ethernet
• HDTV	HDTV
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer

• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• OC3	OC-3 facility
• OC12	OC-12 facility
• OC48	OC-48 facility
• OC192	OC-192 facility
• OCH	Optical Channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port
• STS1	STS1 path
• STS3C	STS3c path
• STS6C	STS6c path
• STS9C	STS9c path
• STS18C	STS18c path
• STS12C	STS12c path
• STS24C	STS24c path
• STS36C	STS36c path
• STS48C	STS48c path
• STS192C	STS192c path
• T1	T1/DS1 facility/line
• T3	T1/DS1 facility/line
• VT1	VT1 path
• VT2	VT2 path
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is ALM_THR, which is the alarm threshold list for MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX-O, 32DMX-O, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards.
• BATV-EHIGH	Battery Voltage—Extremely High
• BATV-ELOW	Battery Voltage—Extremely Low
• BATV-HIGH	Battery Voltage—High
• BATV-LOW	Battery Voltage—Low
• GAIN-HDEG	Gain not reached—High Degrade Threshold
• GAIN-HFAIL	Gain not reached—High Failure Threshold
• GAIN-LDEG	Gain not reached—Low Degrade Threshold
• GAIN-LFAIL	Gain not reached—Low Failure Threshold
• LBCL-HIGH	Laser Bias current in microA as one tenth of a percent. High Warning Threshold, Low Warning Threshold. Measured value (0.0 percent, 100.0 percent).

• OPR-HIGH	Receive power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPR-LOW	Receive power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPT-HIGH	Transmit power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPT-LOW	Transmit power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPWR-HDEG	Optical Power—High Degrade Threshold
• OPWR-HFAIL	Optical Power—High Failure Threshold
• OPWR-LDEG	Optical Power—Low Degrade Threshold
• OPWR-LFAIL	Optical Power—Low Failure Threshold
• VOA-HDEG	VOA Attenuation—High Degrade Threshold
• VOA-HFAIL	VOA Attenuation—High Failure Threshold
• VOA-LDEG	VOA Attenuation—Low Degrade Threshold
• VOA-LFAIL	VOA Attenuation—Low Failure Threshold
<THLEVEL>	Threshold level. THLEVEL is a float.

21.15 RTRV-ALMTH-EQPT

(Cisco ONS 15454) The Retrieve Alarm Threshold Equipment (RTRV-ALMTH-EQPT) command retrieves the alarm thresholds for the power level monitoring on an NE.

Usage Guidelines None

Category Equipment

Security Retrieve

Input Format RTRV-ALMTH-EQPT:[<TID>]:[<AID>]:<CTAG>::[<CONDTYPE>][,,::];

Input Example RTRV-ALMTH-EQPT:::1::BATV-HIGH;

RTRV-ALMTH-EQPT::SHELF-2:1::BATV-HIGH;

Input Parameters

<AID>	The node or shelf access identifier from the "25.24 SHELF" section on page 25-41. If omitted it addresses the node or first shelf of the node. Must not be null
<CONDTYPE>	Must not be null. The parameter type is ALM_THR, which is the alarm threshold list for MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX-O, 32DMX-O, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards.
• BATV-EHIGH	Battery Voltage—Extremely High
• BATV-ELOW	Battery Voltage—Extremely Low
• BATV-HIGH	Battery Voltage—High
• BATV-LOW	Battery Voltage—Low
• GAIN-HDEG	Gain not reached—High Degrade Threshold
• GAIN-HFAIL	Gain not reached—High Failure Threshold
• GAIN-LDEG	Gain not reached—Low Degrade Threshold
• GAIN-LFAIL	Gain not reached—Low Failure Threshold
• LBCL-HIGH	Laser Bias current in microA as one tenth of a percent. High Warning Threshold, Low Warning Threshold Measured value (0.0 percent, 100.0 percent)
• OPR-HIGH	Receive power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPR-LOW	Receive power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPT-HIGH	Transmit power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPT-LOW	Transmit power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPWR-HDEG	Optical Power—High Degrade Threshold
• OPWR-HFAIL	Optical Power—High Failure Threshold
• OPWR-LDEG	Optical Power—Low Degrade Threshold
• OPWR-LFAIL	Optical Power—Low Failure Threshold
• VOA-HDEG	VOA Attenuation—High Degrade Threshold
• VOA-HFAIL	VOA Attenuation—High Failure Threshold
• VOA-LDEG	VOA Attenuation—Low Degrade Threshold
• VOA-LFAIL	VOA Attenuation—Low Failure Threshold

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "[<AID>],<MOD2B>:<CONDTYPE>,,,<DNFIELD>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "SHELF-1,EQPT:BATV-HIGH,,,-52.0,"
;
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   ",EQPT:BATV-HIGH,,,-52.0,""
;
```

Output Parameters

<AID>	The node or shelf access identifier from the "25.24 SHELF" section on page 25-41. If omitted it addresses the node or first shelf of the node. Must not be null
<MOD2B>	Alarm type. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section

• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<CONDTYPE>	Parameter type is ALM_THR, which is the alarm threshold list for MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX-O, 32DMX-O, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards.
• BATV-EHIGH	Battery Voltage—Extremely High
• BATV-ELOW	Battery Voltage—Extremely Low
• BATV-HIGH	Battery Voltage—High
• BATV-LOW	Battery Voltage—Low
• GAIN-HDEG	Gain not reached—High Degrade Threshold
• GAIN-HFAIL	Gain not reached—High Failure Threshold
• GAIN-LDEG	Gain not reached—Low Degrade Threshold
• GAIN-LFAIL	Gain not reached—Low Failure Threshold
• LBCL-HIGH	Laser Bias current in microA as one tenth of a percent. High Warning Threshold, Low Warning Threshold. Measured value (0.0 percent, 100.0 percent).
• OPR-HIGH	Receive power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPR-LOW	Receive power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPT-HIGH	Transmit power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPT-LOW	Transmit power in one tenth of a microW. Measured value (–0.0 dBm, +30.0 dBm).
• OPWR-HDEG	Optical Power—High Degrade Threshold

• OPWR-HFAIL	Optical Power—High Failure Threshold
• OPWR-LDEG	Optical Power—Low Degrade Threshold
• OPWR-LFAIL	Optical Power—Low Failure Threshold
• VOA-HDEG	VOA Attenuation—High Degrade Threshold
• VOA-HFAIL	VOA Attenuation—High Failure Threshold
• VOA-LDEG	VOA Attenuation—Low Degrade Threshold
• VOA-LFAIL	VOA Attenuation—Low Failure Threshold
<DNFIELD>	DNFIELD is a float.

21.16 RTRV-ALS

(Cisco ONS 15454, ONS 15310-CL, ONS 15310-MA) The Retrieve Automatic Laser Shutoff (RTRV-ALS) command retrieves the ALS attributes of an OC-N facility and all the facilities that support the ALS feature. This command is used to retrieve the ALS parameter of the OC48 and OC192 ports on the MXP_2.5G_10E, TXP_MR_10E, TXP_MR_2.5G, TXPP_MR_2.5G, MXP_2.5G_10G, and TXP_MR_10G cards.

Usage Guidelines

None

Category

Ports

Security

Retrieve

Input Format

RTRV-ALS:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-ALS:PENNGROVE:FAC-1-1:1

Input Parameters

<AID>	Access identifier from the "25.2 AidUnionId" section on page 25-11. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,<AIDTYPE>::[ALSMODE=<ALSMODE>],[ALSRCINT=<ALSRCINT>],
   [ALSRCPW=<ALSRCPW>],[LSRSTAT=<LSRSTAT>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-6-1,OC192::ALSMODE=DISABLED,ALSRCINT=100,ALSRCPW=2.0,LSRSTAT=ON:"
;
```

Output Parameters

<AID>	Access identifier from the "25.2 AidUnionId" section on page 25-11.
<AIDTYPE>	Type of access identifier.The parameter type is MOD2, which is the line/path modifier.
• 10GFC	10 Gigabit Fibre Channel
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1 Gigabit Fibre Channel
• 1GFICON	1 Gigabit FICON
• 1GISC3	1 Gbps ISC3 compatible
• 2GFC	2 Gigabit Fibre Channel
• 2GFICON	2 Gigabit FICON
• 2GISC3	2 Gbps ISC3 compatible
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• D1VIDEO	D1 video
• DS1	DS1 line of a DS3XM card
• DS3I	DS3I line
• DV6000	DV6000
• EC1	EC1 facility
• ESCON	ESCON
• ETRCLO	ETR_CLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over packet over SONET. Virtual Ports partitioned using GFP's multiplexing capability.
• GIGE	GIG Ethernet
• HDTV	HDTV
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• OC3	OC-3 facility
• OC12	OC-12 facility
• OC48	OC-48 facility
• OC192	OC-192 facility
• OCH	Optical Channel
• OCHCC	OCH client connection

• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port
• STS1	STS1 path
• STS3C	STS3c path
• STS6C	STS6c path
• STS9C	STS9c path
• STS18C	STS18c path
• STS12C	STS12c path
• STS24C	STS24c path
• STS36C	STS36c path
• STS48C	STS48c path
• STS192C	STS192c path
• T1	T1/DS1 facility/line
• T3	T1/DS1 facility/line
• VT1	VT1 path
• VT2	VT2 path
<ALSMODE>	ALS is enabled or disabled. The parameter type is ALS_MODE, which is the working mode for automatic laser shutdown.
• AUTO	Automatic
• DISABLED	Disabled
• MAN	Manual
• MAN-RESTART	Manual restart for test
<ALSRCINT>	(Optional) ALS interval. The range is 60 to 300 seconds. ALSRCINT is an integer.
<ALSRCPW>	(Optional) ALS recovery pulse width. The range is 2.0 to 100.00 seconds, in increments of 100 ms. ALSRCPW is a float.
<LSRSTAT>	(Optional) Status of the laser. The parameter type is LASER_STATUS (laser status).
• APR	Laser is switched on but is working automatic power reduction.
• OFF	Laser is switched off.
• ON	Laser is switched on.

21.17 RTRV-APC

(Cisco ONS 15454) The Operate Amplification Power Control (RTRV-APC) command retrieves the APC application attributes.

Usage Guidelines None

Category DWDM

Security Maintenance

Input Format RTRV-APC:[<TID>]::<CTAG>;

Input Example RTRV-APC:PENNGROVE::114;

Input Parameters None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "::[APCENABLE=<APCENABLE>],[APCSTATE=<APCSTATE>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "::APCENABLE=Y,APCSTATE=WORKING"
;
```

Output Parameters

<APCENABLE>	(Optional) Enable or disable the APC application. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<APCSTATE>	(Optional) Indicates the status of the APC application. The parameter type is APC_STATE (APC status).
• DISABLE	The APC is disabled by the user and is not working.
• FORCED-DISABLE	The APC has been internally disabled by the node and is not working.
• WORKING	The APC is enabled by the user and is working.

21.18 RTRV-ATTR-CONT

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Attribute Control (RTRV-ATTR-CONT) command retrieves and sends the attributes associated with an external control. These attributes are used when an external control is operated or released. To set these attributes, use the SET-ATTR-CONT command.

Usage Guidelines None

Category Environment

Security Retrieve

Input Format RTRV-ATTR-CONT:[<TID>]:<AID>:<CTAG>[::<CONTTYPE>];

Input Example RTRV-ATTR-CONT:CISCO:ENV-OUT-2:123::AIRCOND;

Input Parameters

<AID>	Access identifier from the "25.13 ENV" section on page 25-30. Identifies the external control for which attributes are being set. Must not be null.
<CONTTYPE>	Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• AUDIBLE	Audible (ONS 15310-MA only)
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:[<CONTTYPE>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "ENV-OUT-2:AIRCOND"
;
```

Output Parameters

AID	Access identifier from the "25.13 ENV" section on page 25-30. Identifies the external control for which attributes are being set. Must not be null.
CONTTYPE	Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• AUDIBLE	Audible (ONS 15310-MA only)
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler

21.19 RTRV-ATTR-ENV

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Attribute Environment (RTRV-ATTR-ENV) command retrieves the attributes associated with an environmental alarm.

Usage Guidelines

None

Category

Environment

Security

Retrieve

Input Format

RTRV-ATTR-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>];

Input Example

RTRV-ATTR-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;

Input Parameters

<AID>	Access identifier from the "25.13 ENV" section on page 25-30. Must not be null.
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.

• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	The alarm type for the environmental alarm. A null value is equivalent to ALL. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMAJOR	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail, or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High airflow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature

• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ringing generator major
• RINGGENMN	Ringing generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:[<NTFCNCDE>],[<ALMTYPE>],[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "ENV-IN-1:MJ,OPENDR,\"OPEN DOOR\""
;
```

Output Parameters

<AID>	Access identifier from the "25.13 ENV" section on page 25-30. Must not be null.
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.

• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	(Optional) The alarm type for the environmental alarm. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMAJOR	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High airflow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature

• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ringing generator major
• RINGGENMN	Ringing generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure
<DESC>	(Optional) Alarm description. DESC is a string.

21.20 RTRV-AUDIT-LOG

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Audit Log (RTRV-AUDIT-LOG) command retrieves the contents of the audit log stored in the NE. Audit records contain information for user operations such as login, logout, change of provisioning parameters and other changes a user might make when connected to the NE. Audit records do not store operations related to parameter retrieval.

Usage Guidelines None

Category Log

Security Superuser

Input Format RTRV-AUDIT-LOG:[<TID>]::<CTAG>;

Input Example RTRV-AUDIT-LOG:::1;

Input Parameters None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   " <ENTRYNUM>,<OCRDAT>,<OCRTM>,<TASKID>,<TXSTATUS>,<DESCRIPTION>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   " 17172,2004-10-05,09-52-44, TPROVMGR,COMPLD,
   \17172,2004-10-05,09-52-44, TPROVMGR,COMPLD,\"DESCRIPTION\""
;
```

Output Parameters

<ENTRYNUM>	Entry number. ENTRYNUM is an integer.
<OCRDAT>	Date of the task.
<OCRTM>	Time of the task.
<TASKID>	Task ID. TASKID is a string.
<TXSTATUS>	Parameter type is TX_STATUS, which indicates the status of the transferred file.
• COMPLD	The file transmission is completed.
• IP	The file transmission is in process.
• START	The file transmission is started.
<DESCRIPTION>	Description of event. Description format varies depending on the event and can include parameters used during the event. DESCRIPTION is a string.

21.21 RTRV-BFDLPM-<MOD2>

(Cisco ONS 15454) The Retrieve BFDL Performance Monitoring (DS1, T1) command retrieves the BFDL (enhanced 24-hour ES, UAS, BES, CSS, and LOFC) performance monitoring parameters and applies to the DS3XM-12 card DS1 under BFDL mode. This command returns the current 15-minute and current 24-hour BFDL performance monitoring (PM) parameters and the 96 15-minute history requested type PM parameters.

Usage Guidelines

For example, the following input:

RTRV-BFDLPM-DS1::DS1-14-1-1:1:::REQTYPE=ENH-24HR-ES;

Will retrieve the following output:

DS1-14-1-1:ES,30,CURR-15MIN-INV DS1-14-1-1:UAS,40,CURR-15MIN-INV
DS1-14-1-1:BES,50,CURR-15MIN-INV DS1-14-1-1:SES,60,CURR-15MIN-INV
DS1-14-1-1:CSS,70,CURR-15MIN-INV DS1-14-1-1:LOFC,80,CURR-15MIN-INV
DS1-14-1-1:ES,30,CURR-24HR-INV DS1-14-1-1:UAS,40,CURR-24HR-INV
DS1-14-1-1:BES,50,CURR-24HR-INV DS1-14-1-1:SES,60,CURR-24HR-INV
DS1-14-1-1:CSS,70,CURR-24HR-INV DS1-14-1-1:LOFC,80,CURR-24HR-INV
DS1-14-1-1:ES,30,1-15MIN-INV DS1-14-1-1:ES,40,2-15MIN-INV
DS1-14-1-1:ES,50,3-15MIN-INV
DS1-14-1-1:ES,80,96-15MIN-INV

Sending this command with a REQTYPE of ENH-24HR-CSS-AND-LOFC will retrieve 96 15-minute PM parameters for both CSS and LOFC. The command is applied on the DS3XM-12 DS1 under BFDL mode, ESF frame format, C-BIT IS port with an IS VT circuit configuration.

Category

Performance

Security

Retrieve

Input Format

RTRV-BFDLPM-<MOD2>:[<TID>]:<AID>:<CTAG>:::REQTYPE=<REQTYPE>;

Input Example

RTRV-BFDLPM-DS1:TID:DS1-14-1-1:123:::REQTYPE=ENH-24HR-ES;

Input Parameters

<AID>	Access identifier from the "25.12 DS1" section on page 25-30. Must not be null.
<REQTYPE>	Indicates requested BFDL PM type. Must not be null. The parameter type is REQTYPE, which is the requested PM type.
• ENH-24HR-BES	The enhanced 24-hour BES performance data
• ENH-24HR-CSS-AND-LOFC	The enhanced 24-hour CSS-AND-LOFC performance data
• ENH-24HR-ES	The enhanced 24-hour ES performance data
• ENH-24HR-SES	The enhanced 24-hour SES performance data
• ENH-24HR-UAS	The enhanced 24-hour UAS performance data

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>:<MONTYPE>,<MONVAL>,<BUCKET>"
;

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "DS1-14-1-1:ES,55,CURR-15MIN-INV"
;
```

Output Parameters

<AID>	Access identifier from the "25.12 DS1" section on page 25-30.
<MONTYPE>	Monitored type which includes: BES, CSS, ES, LOFC, SES, UAS. MONTYPE is a string.
<MONVAL>	The value to which the register identified by MONTYPE is to be initialized to or the measured value of a monitored parameter. The value is in the form of numeric counts or rates. MONVAL is a string.
<BUCKET>	The BIN of each BFDL PM. BUCKET is a string.

21.22 RTRV-BITS

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Building Integrated Timing Supply (RTRV-BITS) command retrieves the BITS configuration command. For BITS facility, 64 K and 6 MHz are only applicable to the ONS 15454. SSM selectable (ADMSSM) is not applicable to the ONS 15600.

Usage Guidelines

None

Category

Synchronization

Security

Retrieve

Input Format

RTRV-BITS:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-BITS:SONOMA:BITS-1:782;

Input Parameters

<AID>	Access identifier from the "25.6 BITS" section on page 25-17. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[LINECDE=<LINECDE>],[FMT=<FMT>],[LBO=<LBO>],
   [SYNCMSG=<SYNCMSG>],[AISTHRSHLD=<AISTHRSHLD>],[SABIT=<SABIT>],
   [IMPEDANCE=<IMPEDANCE>],[BITSFAC=<BITSFAC>],[ADMSSM=<ADMSSM>]:[<PST>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "BITS-1::LINECDE=AMI,FMT=ESF,LBO=0-133,SYNCMSG=N,AISTHRSHLD=PRS,
   SABIT=BYTE-4,IMPEDANCE=120-OHM,BITSFAC=T1,ADMSSM=PRS:IS"
;
```

Output Parameters

<AID>	Access identifier from the "25.6 BITS" section on page 25-17
<LINECDE>	(Optional) Line code. The parameter type is LINE_CODE.
• AMI	Line code value is AMI.
• B8ZS	Line code value is B8ZS (binary eight-zero substitution).
<FMT>	(Optional) Digital signal frame format. The parameter type is FRAME_FORMAT, which is the frame format for a T1 port.
• D4	Frame format is D4.
• ESF	Frame format is ESF.
• UNFRAMED	Frame format is unframed.
<LBO>	(Optional) Line buildout settings. BITS line buildout. Default value is 0 to 133. LBP is an integer. The parameter type is BITS_LineBuildOut, which is the BITS line buildout.
• 0–133	BITS line buildout range is 0–133.
• 134–266	BITS line buildout range is 134–266.
• 267–399	BITS line buildout range is 267–399.
• 400–533	BITS line buildout range is 400–533.
• 534–655	BITS line buildout range is 534–655.
<SYNCMSG>	Indicates if the BITS facility supports synchronization status message. Default is Y. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<AISTHRSHLD>	(Optional) Alarm indication signal threshold. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)

<SABIT>	(Optional) When the frame format selection is E1, SABIT is the BIT used to receive and transmit the SSM. The parameter type is SABITS (SA BITS).
• BYTE-4	SABIT is BYTE-4.
• BYTE-5	SABIT is BYTE-5.
• BYTE-6	SABIT is BYTE-6.
• BYTE-7	SABIT is BYTE-7.
• BYTE-8	SABIT is BYTE-8.
<IMPEDANCE>	(Optional) When the frame format selection is E1, IMPEDANCE is the terminal impedance of the BITS-IN port. The parameter type is IMPEDANCE, which is the terminal impedance of the BITS-IN port
• 120-OHM	Impedance of 120 ohms
• 75-OHM	Impedance of 75 ohms
<BITSFAC>	(Optional) BITS facility settings. The parameter type is BITS_FAC, which is the BITS facility rate. 64 K and 6 MHz are only applicable to the ONS 15454.
• 2 M	2 MHz rate
• 64 K	64 K rate
• 6 M	6 MHz rate
• E1	E1 rate
• T1	T1 rate
<ADMSSM>	(Optional) SSM selectable. Only applicable to BITS-IN when SSM is disabled. **Note** Not applicable for the ONS 15600. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• IS	In Service
• OOS	Out of Service

21.23 RTRV-BULKROLL-<OCN_TYPE>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Bulkroll for OC12, OC192, OC3, or OC48 (RTRV-BULKROLL-<OCN_TYPE>) command retrieves roll data parameters on a line.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Category

Bridge and Roll

Security

Provisioning

Input Format

RTRV-BULKROLL-<OCN_TYPE>:[<TID>]:<SRC>:<CTAG>;

Input Example

RTRV-BULKROLL-OC12:CISCO:FAC-3-1:1;

Input Parameters

<SRC>	Source AID from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

SID DATE TIME
M CTAG COMPLD
"<FROM>:RFROM=<RFROM>,RTO=<RTO>,[RMODE=<RMODE>],VLDSIG=<VLDSIG>"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"STS-3-1-1:RFROM=STS-3-1-1,RTO=STS-5-1-1,RMODE=AUTO,VLDSIG=Y"
;

Output Parameters

<FROM>	One of the end points. Access identifier from the "25.15 FACILITY" section on page 25-33 for line level rolling and bulk rolling.
<RFROM>	The termination point of the existing cross-connect that is to be rolled. The AID is from the "25.11 CrossConnectId1" section on page 25-24 (except VCM and FACILITY).
<RTO>	The termination point that will become a leg of the new cross-connection. The AID is from the "25.11 CrossConnectId1" section on page 25-24 (except VCM and FACILITY).

<RMODE>	(Optional) The rolling mode of operation. The parameter type is RMODE, which specifies the roll mode.
• AUTO	Automatic. When a valid signal is available, the roll under AUTO mode will automatically delete the previous end-point.
• MAN	Manual. Enter the corresponding delete roll/bulkroll command to delete the previous end-point.
• MAN	Manual
• MAN-RESTART	Manual Restart for Test
<VLDSIG>	(Optional) The rolling mode of operation. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

21.24 RTRV-CMD-SECU

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Command Security (RTRV-CMD-SECU) command retrieves the current command security level of the command specified in the AID field.

Usage Guidelines

None

Category

Security

Security

Superuser

Input Format

RTRV-CMD-SECU:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-CMD-SECU::INIT-REG:1;

Input Parameters

<AID>	Access identifier string. Identifies the entity in the NE to which the command pertains. It is the command verb along with verb modifier(s), as it currently exists. It can be a single command or a block of commands, where the block might include all commands. Only INIT-REG will be supported. String. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:<CAP>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
  “INIT-REG:PROV”
;
```

Output Parameters

<AID>	(Optional) Access identifier. It can be a single command or a block of commands, where the block can include all commands. Only INIT-REG is supported. AID is a string.
<CAP>	Command access privilege. The parameter type is PRIVILEGE, which is the security level.
• PROV	Provisioning security level
• SUPER	Superuser security level

21.25 RTRV-COND-<MOD2ALM>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Condition for 1GFC, 1GFICON, 2GFC, 2GFICON, CLNT, DS1, E100, E1000, E3, E4, EC1, FSTE, G1000, GFPOS, GIGE, OC12, OC192, OC3, OC48, OCH, OMS, OTS, POS, STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, T1, T3, UDCDCC, UDCF, VC12, VC3, VCG, VT1, VT2, or WLEN (RTRV-COND-<MOD2ALM>) command retrieves the current standing condition and state associated with an entity.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Category

Fault

Security

Retrieve

Input Format

RTRV-COND-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,];

Input Example

RTRV-COND-T3:TID:FAC-2-1:229::LOS;

Input Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. Must not be null.
<TYPEREQ>	The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
   [<OCRTM>],,,[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-2-1,T3:CR,LOS,SA,01-01,16-00-20,,,\"LOS OF SIGNAL\""
;
```

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1
<AIDTYPE>	(Optional) Type of access identifier. Specifies the type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2ALM, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 1GISC3	1 Gbps ISC3 compatible
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• CLNT	Client facility for MXP/TXP cards
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GFPOS	Generic framing protocol over packet over SONET virtual port alarm

• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1Gbps ISC3 peer
• ISC3PEER2G	2Gbps ISC3 peer
• ISC3PEER2R	1Gbps ISC1, ISC2, and ISC3 compatibility
• ISCCOMPAT	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• T1	T1 alarm
• T3	T3 alarm
• UDCDCC	UDCDCC alarm
• UDCF	UCDF alarm
• VCG	Virtual Concatenation Group alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• WLEN	Wavelength Path Provisioning
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.

<TYPEREP>	The condition itself. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred.
<OCRTM>	(Optional) Time when the specific event or violation occurred.
<DESC>	(Optional) Condition description. DESC is a string.

21.26 RTRV-COND-ALL

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Condition All (RTRV-CON-ALL) command retrieves the current standing condition for all entities.

Usage Guidelines

According to Telcordia GR-833, the RTRV-COND-ALL command only reports EQPT, COM, and rr (T1, T3, OCn, EC1, STSn, VT1, DS1, E100, E1000, G1000, ML-Series, TXP and MXP) alarms.

This command does not return all conditions that are returned by other, more specific RTRV-COND commands; RTRV-COND-ALL returns a subset of these conditions. Telcordia GR-253-CORE, Section 6.2.1.8.4 states a retrieval that returns ALL conditions from a node (RTRV-COND-ALL) must omit any conditions that are "same root cause" as other raised conditions. The section also states any retrieval of a subset of the conditions from a node, regardless of how the subsetting occurs, should not omit these "same root cause" conditions.

RTRV-COND-STS1, for example, includes "same root cause" conditions in the set it returns and RTRV-COND-ALL does not.

To retrieve all the NE conditions, issue all of the following commands:

RTRV-COND-ALL
RTRV-COND-ENV
RTRV-COND-BITS
RTRV-COND-SYNCN

Category

Fault

Security

Retrieve

Input Format

RTRV-COND-ALL:[<TID>]:[<AID>]:<CTAG>::[<TYPEREQ>][,,,];

Input Example

RTRV-COND-ALL:TID:ALL:229::LOS;

Input Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. String. A null value is equivalent to ALL.
<TYPEREQ>	The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
   [<OCRTM>],,,[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-2-1,OC3:CR,LOS,SA,01-01,16-02-15,,,\"LOS OF SIGNAL\""
;
```

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1 that has an alarm condition.
<AIDTYPE>	(Optional) Type of access identifier. Specifies the type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm

• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.

• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<TYPEREP>	The type of condition to be retrieved. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred.
<OCRTM>	(Optional) Time when the specific event or violation occurred.
<DESC>	(Optional) Condition description. DESC is a string.

21.27 RTRV-COND-BITS

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Condition Building Integrated Timing Supply (RTRV-COND-BITS) command retrieves the standing conditions on BITS.

Usage Guidelines

None

Category

Synchronization

Security

Retrieve

Input Format

RTRV-COND-BITS:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,];

Input Example

RTRV-COND-BITS:TID:BITS-1:229::LOS;

Input Parameters

<AID>	Access identifier from the "25.6 BITS" section on page 25-17. Must not be null.

<TYPEREQ>	The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
   [<OCRTM>],,,[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "BITS-1,BITS:CR,LOS,SA,01-01,16-02-15,,,\"LOS OF SIGNAL\""
;
```

Output Parameters

AID	Access identifier from the "25.6 BITS" section on page 25-17 that has an alarm condition.
AIDTYPE	(Optional) Type of access identifier. Specifies the type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS2I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm

• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.

<TYPEREP>	The type of condition to be retrieved. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred.
<OCRTM>	(Optional) Time when the specific event or violation occurred.
<DESC>	(Optional) Condition description. DESC is a string.

21.28 RTRV-COND-ENV

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Environmental Condition (RTRV-COND-ENV) command retrieves the environmental conditions.

Usage Guidelines None

Category Environment

Security Retrieve

Input Format RTRV-COND-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>][,,,];

Input Example RTRV-COND-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;

Input Parameters

<AID>	Access identifier from the "25.13 ENV" section on page 25-30. Must not be null. **Note** For RTRV-ALM-ENV, only ENV-IN-{1-4} is a valid AID for ONS 15454 and only ENV-IN-{1-6} is a valid AID for ONS 15327. ENV-OUT-{1,6} is not a valid AID for RTRV-ALM-ENV.
<NTFCNCDE>	Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	The alarm type for the environmental alarm. A null value is equivalent to ALL. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMAJOR	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail, or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High airflow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion

• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ringing generator major
• RINGGENMN	Ringing generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>:<NTFCNCDE>,<ALMTYPE>,[<OCRDAT>],[<OCRTM>],,,,[<DESC>]"
;

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "ENV-IN-1:MJ,OPENDR,01-01,16-02-15,,,,\"OPEN DOOR\""
;
```

Output Parameters

<AID>	Access identifier from the "25.13 ENV" section on page 25-30.
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	The alarm type for the environmental alarm. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMAJOR	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail, or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High airflow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion

• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ringing generator major
• RINGGENMN	Ringing generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure
<OCRDAT>	(Optional) Date when the specific event or violation occurred.
<OCRTM>	(Optional) Time when the specific event or violation occurred.
<DESC>	(Optional) Condition description. DESC is a string.

21.29 RTRV-COND-EQPT

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Condition Equipment (RTRV-COND-EQPT) command retrieves the equipment conditions.

Usage Guidelines

None

Category

Equipment

Security

Retrieve

Input Format

RTRV-COND-EQPT:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,];

Input Example

RTRV-COND-EQPT:TID:SLOT-1:229::LOS;

Input Parameters

<AID>	Access identifier from the "25.14 EQPT" section on page 25-31 that has an alarm condition. Must not be null.
<TYPEREQ>	The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
   [<OCRTM>],,,[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "SLOT-1,EQPT:CR,LOS,SA,01-01,16-02-15,,,\"LOS OF SIGNAL\""
;
```

Output Parameters

<AID>	Access identifier from the "25.14 EQPT" section on page 25-31 that has an alarm condition.
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm

• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<TYPEREP>	The type of condition to be retrieved. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred.
<OCRTM>	(Optional) Time when the specific event or violation occurred.
<DESC>	(Optional) Condition description. DESC is a string.

21.30 RTRV-COND-SYNCN

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Condition Synchronization (RTRV-COND-SYNCN) command retrieves the synchronization condition.

Usage Guidelines None

Category Synchronization

Security Retrieve

Input Format RTRV-COND-SYNCN:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,];

Input Example RTRV-COND-SYNCN:TID:SYNC-NE:229::LOS;

Input Parameters

<AID>	Access identifier from the "25.28 SYNC_REF" section on page 25-48 that has an alarm condition. Must not be null.
<TYPEREQ>	The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
   [<OCRTM>],,,[<DESC>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "SYNC-NE,SYNCN:MJ,FRNGSYNC,SA,01-01,16-02-15,,,
   \"FREE RUNNING SYNCHRONIZATION MODE\""
;
```

Output Parameters

<AID>	Access identifier from the "25.26 SYN" section on page 25-47 that has an alarm condition.
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The value is always SYNCN. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm

• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<TYPEREP>	The type of condition to be retrieved. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred.
<OCRTM>	(Optional) Time when the specific event or violation occurred.
<DESC>	(Optional) Condition description. DESC is a string.

21.31 RTRV-CONSOLE-PORT

(Cisco ONS 15454, ONS 15310-CL, ONS 15310-MA) The Retrieve Console Port (RTRV-CONSOLE-PORT) command retrieves the status of the console port from the ML-Series cards.

Usage Guidelines

None

Category

Security

Security

Retrieve

Input Format

RTRV-CONSOLE-PORT:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-CONSOLE-PORT:CISCONODE:SLOT-2:123;

Input Parameters

<AID>	Access identifier from the "25.14 EQPT" section on page 25-31. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<EQPT>:[PORT=<PORT>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "SLOT-2:PORT=ENABLED"
;
```

Output Parameters

<EQPT>	Identifies the slot number for the data card. EQPT is a string.
<PORT>	(Optional) Status of the console port on the data card. The parameter type is PORTSTAT, which is the status of the console port on the card.
• DISABLED	The port is disabled.
• ENABLED	The port is enabled.

21.32 RTRV-CRS

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Cross-Connect (RTRV-CRS) command retrieves all the cross-connections based on the required PATH types.

Usage Guidelines

- A NULL AID defaults to ALL (NE).
- A NULL PATH defaults to all the existing cross-connections.
- The LEVEL in the output field is an optional field, and is used to indicate the bandwidth of the PATH cross-connection.
- Both the DRITYPE and the DRINODE optional fields are available to support BLSR-DRI. DRITYPE is applied only if the cross-connect is a drop-and-continue connection (1WAYDC or 2WAYDC), and defaults to path protection for the dual-ring interconnect (DRI). DRINODE must be specified only if at least one end of the connection is on the BLSR, and defaults to NA.
- The DS3XM-12 card allows portless STS1/VT1.5 cross-connection provisioning on the portless ports.
- CKTID is a string of ASCII characters. The maximum length of CKTID is 48. If the CKTID is EMPTY or NULL it will not appear.

Category

Cross Connections

Security

Retrieve

Input Format

RTRV-CRS:[<TID>]:[<AID>]:<CTAG>:::[CRSTYPE=<CRSTYPE>][:];

Input Example

RTRV-CRS:CISCO:ALL:123:::CRSTYPE=STS;

Input Parameters

<AID>	Access identifier from the "25.11 CrossConnectId1" section on page 25-24 that can be facility, STS, VT, or ALL. The ALL AID defaults to NE, which means it reports all the existing cross-connections on the NE. A null value is equivalent to ALL.
<CRSTYPE>	The cross-connection type. Defaults to all existing cross-connections. A null value is equivalent to ALL. The parameter type is PATH, which is the modifier for path commands.
• STS1	Synchronous transport signal/module level 1 (51.84 Mbps)
• STS3C	Synchronous transport signal/module level 3 concatenated (155.52 Mbps)
• STS6C	Synchronous transport signal/module level 6 (311.04 Mbps)
• STS9C	Synchronous transport signal/module level 9 concatenated (466.56 Mbps)

• STS12C	Synchronous transport signal/module level 12 concatenated (622.08 Mbps)
• STS18C	Synchronous transport signal/module level 18 concatenated (933.12 Mbps)
• STS24C	Synchronous transport signal/module level 24 concatenated (1244.16 Mbps)
• STS36C	Synchronous transport signal/module level 36 concatenated (1866.24 Mbps)
• STS48C	Synchronous transport signal/module level 48 concatenated (2488.32 Mbps)
• STS192C	Synchronous transport signal/module level 192 concatenated (9953.28 Mbps)
• VT1	Virtual Tributary 1 (SONET). Virtual Channel 11 (SDH).
• VT2	Virtual Tributary 2 (SONET). Virtual Channel 12 (SDH).

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<SRC>,<DST>:<CCT>,<CRSTYPE>:[DRITYPE=<DRITYPE>],[DRINODE=<SYNCSW>],
   [CKTID=<CKTID>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "STS-5-1-2&STS-6-1-2,STS-12-1-2&STS-13-1-2:1WAYDC,STS1:DRITYPE=BLSR,
   DRINODE=PRI,CKTID=CKTID:OOS-AU,AINS"
;
```

Output Parameters

<SRC>	Source access identifier from the "25.10 CrossConnectId" section on page 25-20. Indicates the source AID(s) of the cross-connection. SRC is listable.
<DST>	Destination AID of the cross-connection from the "25.10 CrossConnectId" section on page 25-20. DST is listable.
<CCT>	Type of connection. Used for specifying one or two-way connections. The parameter type is CCT, which is the type of cross-connect to be created.
• 1WAY	A unidirectional connection from a source tributary to a destination tributary
• 1WAYDC	Path protection multicast drop with (1-way) continue
• 1WAYEN	Path protection multicast end node (1-way continue)

• 1WAYMON	A bidirectional connection between the two tributaries **Note** In ONS 15454 Software Release 3.0 and later and ONS 15327 Software R3.3 and later, 1WAYMON is not supported with TL1. However, it is still supported from Cisco Transport Controller (CTC). Using CTC, you can create 1WAYMON cross-connects that can be retrieved with TL1.
• 1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber
• 2WAY	A bidirectional connection between the two tributaries
• 2WAYDC	A bidirectional drop and continue connection applicable only to path protection traditional and integrated DRIs
• 2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber
• DIAG	Diagnostics cross-connect. Supports BERT (BLSR PCA diagnostics cross-connect).
<CRSTYPE>	The cross-connection type. The parameter type is CRS_TYPE, which is the cross-connection type.
• STS	Indicates all the STS cross-connections
• STS1	STS1 cross-connect
• STS3C	STS3c cross-connect
• STS6C	STS6c cross-connect
• STS9C	STS9c cross-connect
• STS12C	STS12c cross-connect
• STS18C	STS18c cross-connect
• STS24C	STS24c cross-connect
• STS36C	STS36c cross-connect
• STS48C	STS48c cross-connect
• STS192C	STS192c cross-connect
• VT	Indicates all the VT1 cross-connections
• VT1	VT1 cross-connect
• VT2	VT2 cross-connect
<DRITYPE>	(Optional) The DRI connection type. It is applied only if the cross-connection is a drop-and-continue connection type (1WAYDC or 2WAYDC), and defaults to path protection for the DRI configuration. The parameter type is DRITYPE (DRI type).
• BLRS	BLSR DRI type
• UPSR	Path protection DRI type
• UPSR-BLSR	Path protection-BLSR hand-off DRI type
<SYNCSW>	(Optional) Synchronization switch AID from the "25.29 SYNCSW" section on page 25-48.
<CKTID>	(Optional) Circuit identification parameter that contains a common language ID or other alias of the circuit being provisioned. It cannot contain blank spaces. CKTID is a string.

<PST_PSTQ>	Primary state and primary state qualifier separated by a colon. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) One or more secondary states separated by "&", in alphabetical order. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.33 RTRV-CRS-<PATH>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Cross-Connect for STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, VT1, or VT2 (RTRV-CRS-<PATH>) command retrieves any connections associated with the entered AID(s) or AID range. The information on both ends is returned along with the type of connection.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Note

- The path protection STS cross-connection can be retrieved by using "&" in the AID fields of this command.
  - To retrieve a 1-way selector or 2-way selector and bridge cross-connection with:

    from points: F1, F2

    to points: T1

    the output will be:

    1-way

    "F1&F2,T1:CCT,STS3C"

    2-way

    If retrieved on point F1 or F2, the output format is the same as the 1-way output.

If retrieved on point T1, the output will be:

"T1,F1&F2:CCT,STS3C"

- To retrieve a 1-way bridge or 2-way selector and bridge cross-connection with:

  from point: F1

  to points: T1, T2

  the output will be:

  1-way

  "F1,T1&T2:CCT,STS3C"

  2-way

  "T1&T2,F1:CCT,STS3C"

- To retrieve a 1-way subtending path protection connection or 2-way subtending path protection cross-connection with:

  from point: F1, F2

  to points: T1, T2

  the output will be:

  1-way:

  "F1&F2,T1&T2:CCT,STS3C"

  2-way:

  If retrieved on point F1 or F2, the output format is the same as the 1-way output.

  If retrieved on point T1 or T2, the output will be:

  "T1&T2,F1&F2:CCT,STS3C"

- To retrieve a 2-way selector and bridge cross-connection with:

  ENT-CRS-<PATH>::F1&F2,S1&S2:<CTAG>::2WAY;

  from points: F1, F2 (F1 is the working side, F2 is the protect side)

  selector: S1, S2 (S1 is the working side, S2 is the protect side)

  the output will be:

  If retrieved on point F1 or F2, the output will be:

  "F1&F2,S1&S2:CCT,STS3C"

  If retrieved on selector S1 or S2, the output will be:

  "S1&S2,F1&F2:CCT,STS3C"

- To retrieve a path protection IDRI cross-connect with:

  from points: F1, F2

  to points: T1, T2

  the output will be:

  "F1&F2,T1&T2:CCT,STS3C"

  - To retrieve a path protection DRI cross-connect with:

    from points: F1, F2

    to points: T1

    the output will be:

    “F1&F2,T1:CCT,STS3C”

- All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
- STS_PATH does not include STS for the RTRV-CRS command because STS is not a standard designator as defined by Telcordia GR-833 A-2.
- Both the 1WAYPCA and 2WAYPCA is used to specify a PCA cross-connection.
- The facility AID is only valid on slots with a G1K-4 card.
- The virtual facility AID (VFAC) is only valid on slots holding the ML-Series card.
- Both DRITYPE and DRINODE optional fields are available to support BLSR-DRI. DRITYPE is applied only if the cross-connect is a drop-and-continue connection (1WAYDC or 2WAYDC), and defaults to path protection for the DRI. DRINODE must be specified only if at least one end of the connection is on the BLSR, and defaults to NA.
- The DS3XM-12 card allows portless STS1/VT1.5 cross-connection provisioning on the PORTLESS ports.

Category

Cross Connections

Security

Retrieve

Input Format

RTRV-CRS-<PATH>:[<TID>]:<SRC>:<CTAG>[::::];

Input Example

RTRV-CRS-STS3C:KENWOOD:STS-6-1-1:223;

Input Parameters

<SRC>	Source access identifier from the “25.11 CrossConnectId1” section on page 25-24. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
  “<SRC>,<DST>:<CCT>,<MOD>:[DRITYPE=<DRITYPE>],[DRINODE=<SYNCSW>],
  [CKTID=<CKTID>]:<PST_PSTQ>,[<SSTQ>]”
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "STS-5-1-2&STS-6-1-2,STS-12-1-2&STS-13-1-2:1WAYDC,STS1:DRITYPE=BLSR,
   DRINODE=PRI,CKTID=CKTID:OOS-AU,AINS"
;
```

Output Parameters

<SRC>	Source access identifier from the "25.10 CrossConnectId" section on page 25-20. Indicates the source AID(s) of the cross-connection. SRC is listable.
<DST>	Destination AID of the cross-connection from the "25.10 CrossConnectId" section on page 25-20. DST is listable.
<CCT>	Type of connection. Used for specifying one or two-way connections. The parameter type is CCT, which is the type of cross-connect to be created.
• 1WAY	A unidirectional connection from a source tributary to a destination tributary
• 1WAYDC	Path protection multicast drop with (1-way) continue
• 1WAYEN	Path protection multicast end node (1-way continue)
• 1WAYMON	A bidirectional connection between the two tributaries **Note** With ONS 15454 Software R3.0 and later and ONS 15327 Software R3.3 and later, 1WAYMON is not supported with TL1. However, it is still supported from CTC. Using CTC, you can create 1WAYMON cross-connects and can be retrieved by TL1.
• 1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber
• 2WAY	A bidirectional connection between the two tributaries
• 2WAYDC	A bidirectional drop and continue connection applicable only to path protection traditional and integrated dual-ring interconnects
• 2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber
• DIAG	Diagnostics cross-connect. Supports BERT (BLSR PCA diagnostics cross-connect)
<MOD>	The connection path bandwidth. The parameter type is MOD2, which is the line/path modifier.
• 10GFC	10 Gigabit Fibre Channel
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1 Gigabit Fibre Channel
• 1GFICON	1 Gigabit FICON
• 2GFC	2 Gigabit Fibre Channel
• 2GFICON	2 Gigabit FICON
• D1VIDEO	D1 Video
• DS1	DS1 line of a DS3XM card
• DS3I	DS3I line
• DV6000	DV6000

• EC1	EC1 facility
• ESCON	ESCON
• ETRCLO	ETR_CLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over packet over SONET. Virtual ports partitioned using GFP's multiplexing capability.
• GIGE	GIG Ethernet
• HDTV	HDTV
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• OC3	OC3 facility
• OC12	OC12 facility
• OC48	OC48 facility
• OC192	OC192 facility
• OCH	Optical channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port
• STS1	STS1 path
• STS3C	STS3c path
• STS6C	STS6c path
• STS9C	STS9c path
• STS18C	STS18c path
• STS12C	STS12c path
• STS24C	STS24c path
• STS36C	STS36c path
• STS48C	STS48c path
• STS192C	STS192c path
• T1	T1/DS1 facility/line
• T3	T1/DS1 facility/line
• VT1	VT1 path
• VT2	VT2 path
<DRITYPE>	(Optional) The DRI connection type. It is applied only if the cross-connection is a drop-and-continue connection type (1WAYDC or 2WAYDC), and defaults to path protection for the DRI configuration. The parameter type is DRITYPE (DRI type).

• BLRS	BLSR DRI type
• UPSR	Path protection DRI type
• UPSR-BLSR	Path protection-BLSR hand-off DRI type
<SYNCSW>	(Optional) Synchronization switch AID from the "25.29 SYNCSW" section on page 25-48.
<CKTID>	(Optional) A string of ASCII characters. Maximum length is 48. CKTID is a string.
<PST_PSTQ>	Primary state and primary state qualifier separated by a colon. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) One or more secondary states separated by "&", in alphabetical order. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.34 RTRV-DFLT-SECU

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Default Security (RTRV-DFLT-SECU) command retrieves the system-wide default values associated with several security parameters.

Usage Guidelines None

Category Security

Security Superuser

Input Format

RTRV-DFLT-SECU:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-DFLT-SECU:CISCO:ALL:123;

Input Parameters

<AID>	Access identifier. ALL is the only acceptable value. AID is a string. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<NE>:PAGE=<PAGE>,PCND=<PCND>,MXINV=<MXINV>,DURAL=<DURAL>,
   TMOUT=<TMOUT>,UOUT=<UOUT>,PFRCD=<PFRCD>,POLD=<POLD>,PINT=<PINT>,
   LOGIN=<LOGIN>,PRIVLVL=<PRIVLVL>],[PDIF=<PDIF>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "TCC2:PAGE=40,PCND=5,MXINV=5,DURAL=30,TMOUT=0,UOUT=60,PFRCD=NO,
   POLD=5,PINT=20,LOGIN=MULTIPLE,PRIVLVL=RTRV,PDIF=1"
;
```

Output Parameters

<NE>	The node name of the NE where the system values are to be retrieved.
<PAGE>	Password aging interval. It is the number of days before a user is prompted to change his or her password. 0 indicates the policy is turned off and is the default. If PAGE is turned on for all privilege levels and is not specified for each privilege level, it defaults to 45 days. PAGE ranges from 20 to 90 days. PAGE is an integer.
<PCND>	Number of days a password can be used before a new one is mandatory (for example, the warning period). Default is 5 days. PCND ranges from 2 to 20 days. PCND is an integer.
<MXINV>	Maximum number of consecutive and invalid session set up attempts allowed to occur before an intrusion attempt is suspected (for example, "Failed Logins Before Lockout" from CTC). 0 indicates the policy is turned off. Default is 5. MXINV ranges from 0 to 10. MXINV is an integer.
<DURAL>	Time interval (in seconds) during which a user ID is locked out when an intrusion attempt is suspected (for example, the "Lockout Duration"). If the user is locked out until unlocked by a Superuser, DURAL=INFINITE. Default is 30 seconds. DURAL ranges from 0 to 600 seconds. DURAL is 0 for RTRV users, 60 minutes for MAINT users, 30 minutes for PROV users, and 15 minutes for SUPER users. DURAL is a string.

<TMOUT>	Interval (in minutes) after which a session is terminated if no messages are exchanged between the user and the NE. 0 indicates that the session will not timeout. TMOUT is an integer.
<UOUT>	UID aging interval, expressed in days. If a userid has not been used in UOUT days, the user will be forced to change his/her password (or logout) at the next login. No other command is allowed until the password has been changed. 0 indicates the policy is turned off and is the default. UOUT ranges from 1 to 99 days. UOUT is an integer.
<PFRCD>	Indicates a password change is required when a new user establishes a session to the NE for the first time (for example, "Require password change on 1st login"). Default is NO. The parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE or the user is locked out of the NE.
• NO	No
• YES	Yes
<POLD>	Number of prior passwords that cannot be reused (for example, "Prevent reusing last X passwords"). Default is 1. POLD ranges from 1 to 10. POLD is an integer.
<PINT>	Number of days that must pass before a password can be changed. If PINT is 0, the policy is turned off. Default is off. PINT ranges from 20 to 95 days. PINT is an integer.
<LOGIN>	Number of times a user can log into an NE. LOGIN is either SINGLE or MULTIPLE. If LOGIN is SINGLE, a user can only log into an NE one time with any given userid, regardless of the method of login (for example, CTC, TL1, etc.). Default is MULTIPLE. The parameter type is USER_LOGINS, which is the number of times a user can log into the same NE with the same user ID.
• MULTIPLE	A user can log into the same NE many times.
• SINGLE	A user can log into the NE only once (includes both CTC and TL1 sessions).
<PRIVLVL>	Parameter type is PRIVILEGE, which is the security level.
• MAINT	Maintenance security level. Unlimited idle time.
• PROV	Provision security level. 60 minutes of idle time.
• RTRV	Retrieve security level. 30 minutes of idle time.
• SUPER	Superuser security level. 15 minutes of idle time.
<PDIF>	(Optional) Indicates how many characters must differ between old and new passwords. Default minimum character difference is 1. Ranges from 1 to 5 characters. PDIF is an integer.

21.35 RTRV-DS1

(Cisco ONS 15454) The Retrieve DS1 (RTRV-DS1) command retrieves the test access attributes on a DS1 layer of a DS3XM card.

Usage Guidelines

- Both the MODE and the FMT fields of this command are applied for the DS3XM-12 card only.
- If the DS1 mode of the DS3XM-12 is ATT, the DS1 path can retrieve AT&T/54016 FEND PM counts up to 96 15-minute intervals; if the DS1 mode of the DS3XM-12 is FDL, the DS1 path can retrieve FDL/T1-403 FEND PM counts up to 32 15-minute intervals in RTRV-PM-DS1.
- For the DS3XM-12 card, the DS1 frame format NE default is AUTO_PROV_FMT for the first 30 seconds to determine the real format. After 30 seconds, the DS1 frame format is the detected frame. If the frame format is not determined, it will be in the UNFRAMED format.
- For the preprovisioning DS3XM-12 card, its DS1 frame format defaults to UNFRAMED.
- For the DS3XM-12 card, the DS1-configurable attributes (PM, TH, alarm, etc.) only apply to the ported ports (1 to 12) and the VT-mapped (odd) portless ports in xxx-xxx-DS1 commands. Provisioning or retrieving DS1 attributes on the DS3-mapped (even) portless ports in xxx-xxx-DS1 commands is not allowed.

Category

Ports

Security

Retrieve

Input Format

RTRV-DS1:[<TID>]:<SRC>:<CTAG>[::::];

Input Example

RTRV-DS1:PETALUMA:DS1-2-1-6-12:123;

Input Parameters

<SRC>	The DS1 path access identifier of the DS3XM card from the "25.12 DS1" section on page 25-30. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<DS1AID>::[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],[AISONLPBK=<AISONLPBK>],
   [MODE=<MODE>],[FMT=<FMT>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "DS1-2-1-12::TACC=8,TAPTYPE=SINGLE,AISONLPBK=OFF,MODE=FDL,FMT=ESF"
;
```

Output Parameters

<DS1AID>	(Optional) DS1 access identifier from the "25.12 DS1" section on page 25-30.
<TACC>	(Optional) Indicates whether the digroup being provisioned is to be used as a test access digroup. Default is N. TACC is an integer.

<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<AISONLPBK>	(Optional) AIS on loopback. The parameter type is AIS_ON_LPBK, which indicates if an AIS is sent on a loopback.
• AIS_ONLPBK_FACILITY	AIS is sent on facility loopbacks.
• AIS_ON_LPBK_ALL	AIS is sent on all loopbacks.
• AIS_ON_LPBK_OFF	AIS is not sent on loopbacks.
• AIS_ON_LPBK_TERMINAL	AIS is sent on terminal loopbacks.
<MODE>	(Optional) Mode. The parameter type is DS1MODE, which is the DS1 path mode of the DS3XM-12 card
• ATT	Indicates the DS1 path of the DS3XM-12 is in AT&T 54016 mode.
• FDL	Indicates the DS1 path of the DS3XM-12 is in FDL T1-403 mode.
<FMT>	(Optional) Digital signal frame format. The parameter type is FRAME_FORMAT, which is the frame format for a T1 port.
• D4	Frame format is D4.
• ESF	Frame format is ESF.
• UNFRAMED	Frame format is unframed.

21.36 RTRV-EC1

(Cisco ONS 15454, ONS 15310-MA) The Retrieve Electrical Carrier (RTRV-EC1) command retrieves the facility status of an EC1 card.

Usage Guidelines

None

Category

Ports

Security

Retrieve

Input Format

RTRV-EC1:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-EC1:CISCO:FAC-1-1:1234;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[PJMON=<PJMON>],[LBO=<LBO>],[RXEQUAL=<RXEQUAL>],[SOAK=<SOAK>],
   [SOAKLEFT=<SOAKLEFT>],[SFBER=<SFBER>],[SDBER=<SDBER>],[NAME=<NAME>],
   [EXPTRC=<EXPTRC>],[TRC=<TRC>],[TRCMODE=<TRCMODE>],
   [TRCFORMAT=<TRCFORMAT>],[AISONLPBK=<AISONLPBK>]:<PSTPSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1::PJMON=0,LBO=0-225,RXEQUAL=Y,SOAK=52,SOAKLEFT=12-25,SFBER=1E-4,
   SDBER=1E-7,NAME=\"EC1 PORT\",EXPTRC="AAA",TRC="AAA",TRCMODE=MAN,
   TRCFORMAT=16-BYTE,AISONLPBK=AIS_ON_LPBK_ALL:IS-NR,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<PJMON>	(Optional) A SONET pointer monitor attribute of an EC1 port. PJMON is an integer.
<LBO>	(Optional) Line buildout settings. LBO is an integer. The parameter type is E_LBO, which is the electrical signal line buildout.
• 0–225	Electrical signal line buildout range is 0–225.
• 226–450	Electrical signal line buildout range is 226–450.
<RXEQUAL>	(Optional) Parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<SOAK>	IS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1-minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are as follows: • When the port is in OOS, OOS_MT, or IS state, the parameter will not appear. • When the port is in IS-AINS but the countdown has not started due to fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in IS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<SFBER>	(Optional) Signal failure threshold. The default value is 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.

• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Signal degrade threshold. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<NAME>	(Optional) NAME is a string.
<EXPTRC>	(Optional) EXPTRC is a string.
<TRC>	(Optional) TRC is a string.
<TRCMODE>	(Optional) Trace mode. The parameter type is TRCMODE.
• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.
• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• OFF	Turn off path trace capability. Nothing will be reported.
<TRCFORMAT>	(Optional) Trace message size. The parameter type is TRCFORMAT (trace format).
• 1-BYTE	1-byte trace message
• 16-BYTE	16-byte trace message
• 64-BYTE	64-byte trace message
• Y	Enable an attribute.
<AISONLPBK>	(Optional) AIS on loopback. The parameter type is AIS_ON_LPBK, which indicates if an AIS is sent on a loopback.
• AIS_ONLPBK_FACILITY	AIS is sent on facility loopbacks.
• AIS_ON_LPBK_ALL	AIS is sent on all loopbacks.
• AIS_ON_LPBK_OFF	AIS is not sent on loopbacks.
• AIS_ON_LPBK_TERMINAL	AIS is sent on terminal loopbacks.
<PST_PSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled

• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.37 RTRV-EQPT

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Equipment (RTRV-EQPT) command retrieves the data parameters and state parameters associated with an equipment unit.

The RTRV-EQPT command also retrieves shelf parameters.

Usage Guidelines

This command returns the PRTYPE, PROTID, RVTM, and RVRTV parameters for a card inside of a protection group according to the following scenarios:

- A working AID/card within a 1:1 protection group will return PRTYPE, PROTID, RVTM, and RVRTV.
- A protection/AID card within a 1:1 protection group will return PRTYPE, RVTM, and RVRTV.
- A working AID/card within a 1:N protection group will return PRTYPE, PROTID, RVTM, and RVRTV=Y.
- A protection AID/card of a 1:1 protection group will return PRTYPE, RVTM, and RVRTV=Y.
- An unprotected AID/card will return the AID type, equip (equip/unequip), status (act/standby), and state (IS/OOS) values.
- Preprovisioned cards (without being plugged in) will display OOS,AINS for PST and SST. After the card is plugged in and has gone through its initialization sequence, the card automatically goes to IS state (PST).
- The CARDMODE parameter is displayed for ML-Series and FC_MR-4 cards.
- The RETIME and TRANSMODE parameters are only displayed for the DS1/E1-56 card.

Error conditions:

- The equipment is not provisioned.

Category

Equipment

Security

Retrieve

Input Format

RTRV-EQPT:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-EQPT:MIRABEL:SLOT-12:230;

Input Parameters

<AID>	Access identifier from the "25.14 EQPT" section on page 25-31. Must not be null.

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>:<AIDTYPE>,<EQUIP>,[<ROLE>],[<STATUS>]:[PROTID=<PROTID>],
[PRTYPE=<PRTYPE>],[RVRTV=<RVRTV>],[RVTM=<RVTM>],
[CARDNAME=<CARDNAME>],[IOSCFG=<IOSCFG>],[CARDMODE=<CARDMODE>],
[PEERID=<PEERID>],[REGENNAME=<REGENNAME>,][TRANSMODE=<TRANSMODE>],
[RETIME=<RETIME>],[SHELFROLE=<SHELFROLE>]:[<PST_PSTQ>],[<SSTQ>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"SLOT-12:DS1,EQUIP,,ACT:PROTID=SLOT-13,PRTYPE=1-1,RVRTV=Y,RVTM=8.5,
CARDNAME=DESCRIPTION,IOSCFG="IOS CONFIG INFO FOR ML SERIES CARD",
CARDMODE=DS3XM12-STS48,PEERID=SLOT-1,REGENNAME="THIS GROUP",
TRANSMODE=SONET,RETIME=Y,SHELFROLE=NC:OOS-AU,AINS&UEQ"
;

Output Parameters

<AID>	Access identifier from the "25.14 EQPT" section on page 25-31.
<AIDTYPE>	The type of facility, link, or other addressable entity targeted by the message. The parameter type is EQUIPMENT_TYPE (equipment type).
• 10DME-C	(ONS 15454) 10DME-C card
• 10DME-L	(ONS 15454) 10DME-L card
• 32DMX	(ONS 15454) 32 channel demultiplexer
• 32DMX-L	(ONS 15454) 32 channel demultiplexer unit for L-band
• 32DMX-O	(ONS 15454) 32 channel unidirectional optical demultiplexer
• 32MUX-O	(ONS 15454) 32 channel unidirectional optical multiplexer
• 32WSS	(ONS 15454) 32 channel optical wavelength selective switch
• 32WSS-L	(ONS 15454) 32 channel wavelength switch selector unit for L-band
• 4MD-xx.x	(ONS 15454) Optical multiplexer/demultiplexer with 4 channels
• AD-1B-xx.x	(ONS 15454) Optical add/drop multiplexed (OADM) 1 band filter
• AD-1C-xx.x	(ONS 15454) Optical add/drop multiplexed (OADM) 1 channel filter
• AD-2C-xx.x	(ONS 15454) Optical add/drop multiplexed (OADM) 2 channel filter
• AD-4B-xx.x	(ONS 15454) Optical add/drop multiplexed (OADM) 4 band filter

• AD-4C-xx.x	(ONS 15454) Optical add/drop multiplexed (OADM) 4 channel filter
• AIC-I	(ONS 15454) AIC-I card
• ASAP	(ONS 15600) Any service any port carrier card with 4 PIM slots
• CE-1000-4	(ONS 15454) CE-1000-4 card
• CE-100T-8	(ONS 15454, ONS 15310-CL, ONS 15310-MA) Eight port 100T card
• CTX2500	(ONS 15310-MA) CTX2500 card
• DS1	(ONS 15454) DS1 card
• DS1-28/DS3-EC1-3	(ONS 15310-MA) DS1-28/DS3-EC1-3 card
• DS1-84/DS3-EC1-3	(ONS 15310-MA) DS1-84/DS3-3 card
• DS1/E1-56	(ONS 15454) DS1/E1-56 card
• DS1N	(ONS 15454) DS1N card
• DS3	(ONS 15454) DS3 card
• DS3/EC1-48	(ONS 15454) DS3/EC1-48 card
• DS3i-N-12	(ONS 15454) DS3i-N-12 card
• DS3N	(ONS 15454) DS3N card
• DS3NE	(ONS 15454) DS3NE card
• DS3XM-6	(ONS 15454) DS3XM-6 card
• DS3XM-12	(ONS 15454) DS3XM-12 card
• E1000-2	(ONS 15454) E1000-2 card
• E1000-2-G	(ONS 15454) E1000-2-G card
• E100T	(ONS 15454) E100T card
• EC1	(ONS 15454) EC1 card
• FC_MR-4	(ONS 15454) FC_MR-4 card
• FILLER-CARD	Blank Filler card
• G1000-2	(ONS 15327) Two port G1000 card
• G1K-4	(ONS 15454) Four port G1000 card
• MIC A	(ONS 15327) MIC A card
• MIC B	(ONS 15327) MIC B card
• ML100T-8	(ONS 15310-CL, ONS 15310-MA) Mapper card
• ML1000-2	(ONS 15454) ML-Series two port gigabit Ethernet card
• ML100T-12	(ONS 15454) ML-Series 12 port FSTE card
• ML100X-8	(ONS 15454) Eight port 100T card with optical interface
• MMU	(ONS 15454) Multiring/mesh upgrade unit
• MRC-12	(ONS 15454) 12 port multirate optical card
• MXP_2.5G_10E	(ONS 15454) 2.5-Gbps-10-Gbps Muxponder-100 GHz-Tunable xx.xx-xx.xx card
• MXP_2.5G_10E_L	(ONS 15454) 2.5-Gbps-10-Gbps Muxponder-100 GHz-Tunable xx.xx-xx.xx card for L-band
• MXP_2.5G_10E_C	(ONS 15454) 2.5-Gbps-10-Gbps Muxponder-100 GHz-Tunable xx.xx-xx.xx card for C-band

• MXP_2.5G_10G	(ONS 15454) 2.5-Gbps-10-Gbps muxponder-100 GHz-tunable xx.xx-xx.xx card
• MXP_MR_2.5G	(ONS 15454) 2.5-Gbps multirate muxponder-100 GHz-tunable 15xx.xx-15yy.yy card
• MXPP_2.5G_10G	(ONS 15454) 2.5-Gbps-10-Gbps muxponder-protected-100 GHz-tunable xx.xx-xx.xx card
• MXPP_MR_2.5G	(ONS 15454) 2.5-Gbps multirate muxponder-protected-100 GHz-tunable 15xx.xx-15yy.yy card
• OC3	(ONS 15454, ONS 15327) OC-3 card
• OC3-8	(ONS 15454) Eight port OC-3 card
• OC12	(ONS 15454, ONS 15327) OC-12 card
• OC12-4	(ONS 15454) Four port OC-12 card
• OC48	(ONS 15454, ONS 15327, ONS 15600) OC-48 card
• OC48-16	(ONS 15454) 16 port OC-48 card
• OC192	(ONS 15454, ONS 15600) OC-192 card
• OC192-4	(ONS 15454) Four port OC-192 card
• OC192-XFP	(ONS 15454) One port OC-192 XFP
• OPT-AMP-L	(ONS 15454) Optical preamplifier unit for L-Band
• OPT-BST	(ONS 15454) Optical booster amplifier
• OPT-BST-L	(ONS 15454) Optical booster unit for L-Band
• OPT-PRE	(ONS 15454) Optical preamplifier
• OSC-CSM	(ONS 15454) Optical service channel (OSC) with combiner/separator Module (SCM)
• OSCM	(ONS 15454) Optical service channel module
• PIM-1	(ONS 15600) One port pluggable interface module
• PIM-4	(ONS 15600) Four port pluggable interface module
• PPM-1	(ONS 15454, ONS 15600, ONS 15310-CL, ONS 15310-MA) Pluggable port module with one SFP port
• SHELF	Shelf entity
• SSXC	(ONS 15600) Cross-connect card
• TCC	(ONS 15454) TCC card
• TXP_MR_10E	(ONS 15454) 10-Gbps multirate transponder-100-GHz-tunable xx.xx-xx.xx card
• TXP_MR_10E_C	(ONS 15454) 10-Gbps multirate transponder-100-GHz-tunable xx.xx-xx.xx card for C-band
• TXP_MR_10E-L	(ONS 15454) 10-Gbps multirate transponder-100-GHz-tunable xx.xx-xx.xx card for L-band
• TXP_MR_10G	(ONS 15454) 10-Gbps multirate transponder-100-GHz-tunable xx.xx-xx.xx card
• TXP_MR_2.5G	(ONS 15454) 2.5-Gbps multirate transponder-100-GHz-tunable xx.xx-xx.xx card
• TXPP_MR_2.5G	(ONS 15454) 2.5-Gbps multirate transponder-protected-100-GHz-tunable xx.xx-xx.xx card
• UNKNOWN	Unknown equipment type

• UNPROVISIONED	Unprovisioned type
• XC10G	(ONS 15454) XC10G card
• XCVT	(ONS 15454) XCVT card
• XC-VXC-10G	(ONS 15454) XC-VXC-10G card
• XTC	(ONS 15327) XTC card
<EQUIP>	Indicates if the equipment is physically present. The parameter type is EQUIP, which is the presence of a plug-in unit.
• EQUIP	The unit is equipped—present.
• UNEQUIP	The unit is unequipped—absent.
<ROLE>	(Optional) Indicates if the card is a working unit or the protecting unit. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) Indicates a status. SONET card status is shown on its card level. The parameter type is STATUS.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit on the shelf.
<PROTID>	(Optional) Protecting identifier AID from the "25.22 PRSLOT" section on page 25-40.
<PRTYPE>	(Optional) Protection type. The parameter type is PROTECTION_GROUP, which is the protection group type.
• 1-1	1 to 1 protection
• 1-N	1 to N protection
<RVRTV>	(Optional) Revertive mode. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<CARDNAME>	(Optional) The card name of the card, PIM, or PPM equipment. CARDNAME is a string.

<IOSCFG>	(Optional) Displays the information about the startup Cisco IOS configuration file for the ML-Series cards. An example of this field is "TL1,11.22.33.44//DIR/IOS.CONF,2002/1/1 9:1:1 EST". The following information is included in this field: • Where the configuration file is from (TL1, CTC, CTM, CLI, TCC) • The host (IP address), directory, and file name, if the configuration file is downloaded from the network • When the startup configuration file was created (by copying from the network, for example). This field only applies to ML-Series cards. IOSCFG is a string.
<CARDMODE>	(Optional) Card mode. The parameter type is CARDMODE, which is the card mode. Card mode is applicable to cards that have multiple capabilities, for example, the ML-Series card can operate in two distinct modes: Linear Mapper Mode and L2/L3 Mode.
• AMPL-BST	The optical amplifier is working as an optical booster
• AMPL-PRE	The optical amplifier is working as an optical pre-amplifier
• DS3XM12-STS12	The DS3XM-12 card in the STS12 backplane rate mode
• DS3XM12-STS48	The DS3XM-12 card in the STS48 backplane rate mode
• DWDM-LINE	Line terminating mode
• DWDM-SEC	Section terminating mode
• DWDM-TRANS-AIS	Transparent mode AIS
• DWDM-TRANS-SQUELCH	Transparent mode SQUELCH
• FCMR-DISTEXTN	FC_MR-4 card with distance extension support
• FCMR-LINERATE	FC_MR-4 card without distance extension support
• ML-GFP	ML-Series card in DOS field-programmable gate array (FPGA) using generic framing procedure (GFP) framing type
• ML-HDLC	ML-Series card in DOS FPGA using high-level data link control (HDLC) framing type
• MXPMR10DME-4GFC	4 Gbps Fibre Channel/FICON mode for the Cisco ONS 15454 10DME-C/10DME-L card supported on ports one and five
• MXPMR10DME-4GFC-FCGEISC	4 Gbps Fibre Channel/FICON supported on port one and Fibre Channel, GIGE and ISC modes for the Cisco ONS 15454 10DME-C/10DME-L card supported on ports five to eight
• MXPMR10DME-FCGEISC	Fibre Channel, GIGE and ISC modes for the Cisco ONS 15454 10DME-C/10DME-L card supported on all eight ports
• MXPMR10DME-FCGEISC-4GFC	Fibre Channel, GIGE and ISC modes for the Cisco ONS 15454 10DME-C/10DME-L card supported on ports one to four and 4 Gbps Fibre Channel/FICON supported on port five
• MXPMR10G-FCGEISC	Fibre Channel, GIGE and ISC modes for the Cisco ONS 15454 10DME-C10DME-L card supported on all 8 ports (MXP-MR-10DME)
• MXPMR10G-4GFC	4 Gbps Fibre Channel/FICON mode for the Cisco ONS 15454 10DME-C10DME-L card supported on ports 1 and 5 (MXP-MR-10DME)

• MXPMR10G-FCGEISC-4GFC	Fibre Channel, GIGE and ISC modes for the Cisco ONS 15454 10DME-C10DME-L card supported on ports 1 to 4 and 4 Gbps Fibre Channel/FICON supported on port 5 (MXP-MR-10DME)
• MXPMR10G-4GFC-FCGEISC	4 Gbps Fibre Channel/FICON supported on port 1 and Fibre Channel, GIGE and ISC Modes for the Cisco ONS 15454 10DME-C10DME-L card supported on ports 5 to 8 (MXP-MR-10DME)
• MXPMR25G-ESCON	ESCON mode for the Cisco ONS 15454 MXP_2.5G_10G card
• MXPMR25G-FCGE	Fibre channel or GIGE mode for the MXP_2.5G_10G card
• MXPMR25G-MIXED	Mixed Fibre Channel, GIGE and ESCON modes for the Cisco ONS 15454 MXP_2.5G_10G card
<PEERID>	(Optional) The regeneration group peer slot identifier from the "25.14 EQPT" section on page 25-31.
<REGENNAME>	(Optional) Name of a regeneration group. REGENNAME is a string.
<TRANSMODE>	(Optional) Transport mode. Applicable only to the DS1/E1-56 card on ONS 15454. Defaults to SONET. The parameter type is TRANSMODE (transition mode).
• AU3	AU3 mode
• AU4	AU4 mode
• SONET	SONET mode
<RETIME>	(Optional) Indicates the retime function for all the ports on this card. Applicable only to the DS1/E1-56 card on the ONS 15454. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SHELFROLE>	The role of the shelf in the context of the node. When it is omitted it defaults to SC. The parameter is SHELF_ROLE.
• NC	The shelf behaves as a node controller.
• SC	The shelf behaves as a shelf controller.
<PST_PSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	Secondary state of the entity. Listable. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group

• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.38 RTRV-ESCON

(Cisco ONS 15454) The Retrieve Enterprise System Connection (RTRV-ESCON) command retrieves the Fibre Channel-specific settings for ports that have been configured to carry ESCON traffic using the ENT-ESCON command.

Usage Guidelines

None

Category

Ports

Security

Retrieve

Input Format

RTRV-ESCON:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-ESCON::CISCO:FAC-1-1:123;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:,,[<ROLE>],[<STATUS>]:[ENCAP=<ENCAP>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1:,,WORK,ACT:ENCAP=GFP-T"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<ROLE>	(Optional) The port role in Y-cable protection (WORK or PROT). The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) A port status in Y-cable protection (ACT or STBY). The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<ENCAP>	(Optional) Encapsulation frame type. The parameter type is ENCAP, which is the frame encapsulation type.
• GFP_F	GFP Frame Mode
• GFP_T	GFP Transparent Mode
• HDLC	HDLC Frame Mode
• HDLC_LEX	HDLC LAN Extension Frame Mode
• HDLC_X86	HDLC X.86 Frame Mode

21.39 RTRV-EXT-CONT

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve External Control (RTRV-EXT-CONT) command retrieves the control state of an external control. The command can be used to audit the result of an OPR-EXT-CONT or a RLS-EXT-CONT command.

Usage Guidelines

- If the CONTTYPE is null, the existing CONTTYPE on this AID will be returned.
- The duration is not supported. It defaults to CONTS.

Category

Environment

Security

Retrieve

Input Format

RTRV-EXT-CONT:[<TID>]:<AID>:<CTAG>[::<CONTTYPE>];

Input Example

RTRV-EXT-CONT:CISCO:ENV-OUT-2:123::AIRCOND;

Input Parameters

<AID>	Access identifier from the "25.13 ENV" section on page 25-30. The only valid AID for RTRV-EXT-CONT is ENV-OUT-{1-2}. Must not be null.
<CONTTYPE>	Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• AUDIBLE	Audible (ONS 15310-MA only)
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:[<CONTTYPE>],<DUR>,[<CONTSTATE>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "ENV-OUT-2:AIRCOND,CONTS,OPEN"
;
```

Output Parameters

<AID>	Access identifier from the "25.13 ENV" section on page 25-30. Identifies the external control for which the control state is being retrieved.
<CONTTYPE>	(Optional) Environmental control type. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• AUDIBLE	Audible (ONS 15310-MA only)
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler
<DUR>	Duration of operation. The duration for which the external control can be operated. The parameter type is Duration.
• CONTS	Continuous duration

<CONTSTATE>	(Optional) Control state of the external control. The parameter type is CONT_MODE, which is the current state of the environmental control.
• NA	Not applicable (for example, duration is MNTRY).
• OPER	The environmental control state is CLOSE.
• RLS	The environmental control state is OPEN.

21.40 RTRV-FAC

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Facility (RTRV-FAC) command retrieves the payload type of the facility. It can also dump all the facilities on a given card and is applicable to all cards.

Note You must retrieve card information only from the working card and not from the protect card.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-FAC:[<TID>]:<SRC>:<CTAG>[::::];

Input Example RTRV-FAC:CISCO:FAC-2-9:2223;

Input Parameters

<SRC>	Source access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<SRC>::PAYLOAD=<PAYLOAD>:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-2-9::PAYLOAD=E4-FRAMED:OOS-AU,AINS"
;
```

Output Parameters

<SRC>	Source access identifier from the "25.15 FACILITY" section on page 25-33.
<PAYLOAD>	(Optional) Payload type of the facility. The parameter type is PAYLOAD, which identifies payload type.
• 10GFC	10 Gigabit Ethernet Fibre Channel mode
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1 Gigabit Fibre Channel mode
• 1GFICON	1 Gigabit FICON mode
• 2GFC	2 Gigabit Fibre Channel mode
• 2GFICON	2 Gigabit FICON mode
• DS3	DS3 mode
• DS3XM	DS3XM payload mode for DS3XM card
• DV6000	Video mode
• EC1	EC1 mode
• ESCON	ESCON mode
• ETRCLO	ETR_CLO payload mode
• GIGE	Gigabit Ethernet Payload
• HDTV	HDTV mode
• ISC1	ISC1 Mode
• ISC3	ISC3 Mode
• OC12	SONET OC12 mode
• OC3	SONET OC3 mode
• OC48	SONET OC48 mode
• PASS-THROUGH	Pass through mode
• SDI-D1-VIDEO	SDI-D1-Video mode
• SONET	SONET Payload Mode
<PST_PSTQ>	Administrative state in the PST-PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state. SSTQ is a string.

21.41 RTRV-FFP

(Cisco ONS 15454) The Retrieve Facility Protection Group (RTRV-FFP) command retrieves all optical 1+1 protection groups.

Usage Guidelines

None

Category Protection

Security Retrieve

Input Format RTRV-FFP:[<TID>]:<AID>:<CTAG>[::::];

Input Example RTRV-FFP:HERNDON:FAC-1-1:1;

Input Parameters

AID	Optical facility access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
  “<WORK>,<PROTECT>:<LEVEL>:[PROTID=<PROTID>],[RVRTV=<RVRTV>],
  [RVTM=<RVTM>],[PSDIRN=<PSDIRN>],[VRGRDTM=<VRGRDTM>],
  [DTGRDTM=<DTGRDTM>],[RCGRDTM=<RCGRDTM>],[OPOTYPE=<OPOTYPE>]”
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
  “FAC-2-1,FAC-1-1:OC48:PROTID="PROT_NAME",RVRTV=Y,RVTM=1.0,PSDIRN=BI,
  VRGRDTM=0.5,DTGRDTM=1.0,RCGRDTM=1.0,OPOTYPE=OPTIMIZED”
;
```

Output Parameters

<WORK>	The working port access identifier from the “25.15 FACILITY” section on page 25-33.
<PROTECT>	The protected port access identifier from the “25.15 FACILITY” section on page 25-33.
<PROTTYPE>	(Optional) Protection group type. PROTTYPE is a string.
<LEVEL>	Optical rate the protection group was defined against. The parameter type is OCN_TYPE, which is the modifier used to differentiate various levels of OC-N.
• OC12	Optical Carrier level 12 (622 Mbps)
• OC192	Optical Carrier level 192 (10 Gbps)
• OC3	Optical Carrier level 3 (155 Mbps)
• OC48	Optical Carrier level 48 (2.4 Gbps)
<PROTID>	(Optional) Protection group name. PROTID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Defaults to N. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Direction of reversion. The parameter type is UNI_BI, which is the unidirectional and bidirectional switch operations.
• BI	Bidirectional protection switching
• UNI	Unidirectional protection switching

<VRGRDTM>	(Optional) Verification guard timer. Only applies to optimized 1+1. The parameter type is VERIFICATION_GUARD_TIMER, which is the optimized 1+1 verification guard timer.
• 0.5	500 ms
• 1.0	1 second
<DTGRDTM>	(Optional) Detection guard timer. Only applies to optimized 1+1. The parameter type is DETECTION_GUARD_TIMER, which is the optimized 1+1 detection guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
<RCGRDTM>	(Optional) Recovery guard timer. Only applies to optimized 1+1. The parameter type is RECOVERY_GUARD_TIMER, which is the optimized 1+1 recovery guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
• 6.0	6 seconds
• 7.0	7 seconds
• 8.0	8 seconds
• 9.0	9 seconds
• 10.0	10 seconds
<OPOTYPE>	(Optional) 1+1 protection type. The parameter type is ONE_PLUS_ONE, which is the 1+1 protection type.
• OPTIMIZED	Optimized 1+1
• STANDARD	Standard 1+1

21.42 RTRV-FFP-<MOD2DWDMPAYLOAD>

(Cisco ONS 15454) The Retrieve Facility Protection Group for 10GFC, 10GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, D1VIDEO, DV6000, ETRCLO, GIGE, HDTV, ISC1, ISC3, or PASSTHRU (RTRV-FP-<MOD2DWDMPAYLOAD>) command retrieves Y-cable protection on client facilities.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-FFP-<MOD2DWDMPAYLOAD>:[<TID>]:<SRC>:<CTAG>[::::];

Input Example

RTRV-FFP-HDTV:CISCO:FAC-1-1-1:100;

Input Parameters

<SRC>	Source access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AIDUNIONID>,<AIDUNIONID1>::[PROTTYPE=<PROTTYPE>],[PROTID=<PROTID>],
   [RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1-1,FAC-2-1-1::PROTTYPE=Y-CABLE,PROTID=\"DC-METRO\",
   RVRTV=N,RVTM=1.0,PSDIRN=BI"
;
```

Output Parameters

<AIDUNIONID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<AIDUNIONID1>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<PROTTYPE>	(Optional) The type of facility protection. The parameter type is PROTTYPE, which is the protection type for DWDM client facilities.

• Y-CABLE	Y-cable protection for the client ports on TXP_MR_10G, MXP_2.5G_10G, TXP_MR_2.5G, and TXPP_MR_2.5G cards.
<PROTID>	(Optional) Y-cable protection group identifier. PROTID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	(Optional) Revertive time. Defaults to 5.0 minutes. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Identifies the switching mode. Defaults to UNI. The parameter type is UNI_BI, which is the unidirectional and bidirectional switch operations.
• BI	Bidirectional protection switching
• UNI	Unidirectional protection switching

21.43 RTRV-FFP-<OCN_TYPE>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Facility Protection Group for OC3, OC12, OC48, or OC192 (RTRV-FFP-<OCN_TYPE>) command retrieves the optical facility protection information.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Note Optimized 1+1 and related attributes only apply to the ONS 15454.

Note ONS 15310-CL does not support OC48 and OC192.

Category

Protection

Security

Retrieve

Input Format

RTRV-FFP-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-FFP-OC3:PETALUMA:OC3-1-1:1;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

SID DATE TIME
M CTAG COMPLD
"<WORK>,<PROTECT>::[PROTTYPE=<PROTTYPE>],[PROTID=<PROTID>],
[RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>],[VRGRDTM=<VRGRDTM>],
[DTGRDTM=<DTGRDTM>],[RCGRDTM=<RCGRDTM>],[OPOTYPE=<OPOTYPE>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"FAC-2-1,FAC-1-1::PROTTYPE=Y-CABLE,PROTID="PROT_NAME",RVRTV=Y,RVTM=1.0,
PSDIRN=BI,VRGRDTM=0.5,DTGRDTM=1.0,RCGRDTM=1.0,OPOTYPE=OPTIMIZED"
;

Output Parameters

<WORK>	Access identifier from the "25.15 FACILITY" section on page 25-33. Identifies the working port.
<PROTECT>	Access identifier from the "25.15 FACILITY" section on page 25-33. Identifies the protection port.
<PROTTYPE>	(Optional) Protection group type. Applicable only to DWDM cards. The parameter type is PROTTYPE, which is the protection type for DWDM client facilities.
• Y-CABLE	Y-cable protection for the client ports on TXP_MR_10G, MXP_2.5G_10G, TXP_MR_2.5G, and TXPP_MR_2.5G cards.
<PROTID>	(Optional) Free-form text string name given to the 1+1 protection group. PROTID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Defaults to N. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	(Optional) Revertive time. Defaults to 5.0 minutes. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Identifies the switching mode. Defaults to UNI. The parameter type is TRANS_MODE, which is the G1000 transponder mode.

• BI	Bidirectional
• NONE	Not in transponder mode
• UNI	Unidirectional
<VRGRDTM>	(Optional) Verification guard timer. Only applies to optimized 1+1. The parameter type is VERIFICATION_GUARD_TIMER, which is the optimized 1+1 verification guard timer.
• 0.5	500 ms
• 1.0	1 second
<DTGRDTM>	(Optional) Detection guard timer. Only applies to optimized 1+1. The parameter type is DETECTION_GUARD_TIMER, which is the optimized 1+1 detection guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
<RCGRDTM>	(Optional) Recovery guard timer. Only applies to optimized 1+1. The parameter type is RECOVERY_GUARD_TIMER, which is the optimized 1+1 recovery guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
• 6.0	6 seconds
• 7.0	7 seconds
• 8.0	8 seconds
• 9.0	9 seconds
• 10.0	10 seconds
<OPOTYPE>	(Optional) 1+1 protection type. The parameter type is ONE_PLUS_ONE, which is the 1+1 protection type.
• OPTIMIZED	Optimized 1+1
• STANDARD	Standard 1+1

21.44 RTRV-FFP-OCH

(Cisco ONS 15454) The Retrieve Facility Protection Group Optical Channel (RTRV-FFP-OCH) command retrieves the protection group information for the TXP_MR_2.5G and TXPP-MR-2.5G card trunk port.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-FFP-OCH:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-FFP-OCH:VA454-22:CHAN-2-2:100;

Input Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<WORK>,<PROTECT>::[PROTTYPE=<PROTTYPE>],[PROTID=<PROTID>],
   [RVRTV=<RVRTV>],[RVTM=<RVTM>,[,PSDIRN=<PSDIRN>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "CHAN-2-2,CHAN-2-3::PROTTYPE=SPLITTER,PROTID=\"TRUNK PROT\",RVRTV=Y,
   RVTM=1.0,PSDIRN=UNI"
;
```

Output Parameters

<WORK>	The working port access identifier from the "25.8 CHANNEL" section on page 25-19.
<PROTECT>	The protected port access identifier from the "25.8 CHANNEL" section on page 25-19.
<PROTTYPE>	(Optional) Protection group type. PROTTYPE is a string.
<PROTID>	(Optional) Protection group name. PROTID is a string.

<RVRTV>	(Optional) Revertive mode. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Defaults to N. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Direction of reversion. The parameter type is UNI_BI, which is the unidirectional and bidirectional switch operations.
• BI	Bidirectional protection switching
• UNI	Unidirectional protection switching

21.45 RTRV-FSTE

(Cisco ONS 15454, ONS 15310-CL, ONS 15310-MA) The Retrieve Fast Ethernet (RTRV-FSTE) command retrieves the front-end port information of a Fast Ethernet (10/100 Mbps) card. MTU is not displayed for the ML-100T-8 and CE-100T-8 cards. RTRV-POS will display the MTU that is common for both front-end and back-end ports.

Usage Guidelines

None

Category

Ports

Security

Retrieve

Input Format

RTRV-FSTE:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-FSTE:TID:FAC-1-1:CTAG;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[ADMINSTATE=<ADMINSTATE>],[LINKSTATE=<LINKSTATE>],[MTU=<MTU>],
   [FLOWCTRL=<FLOWCTRL>],[DUPLEX=<DUPLEX>],[SPEED=<SPEED>],[FLOW=<FLOW>],
   [EXPDUPLEX=<EXPDUPLEX>],[EXPSPEED=<EXPSPEED>],[VLANCOS=<VLANCOS>],
   [IPTOS=<IPTOS>],[OPTICS=<OPTICS>],[NAME=<NAME>],[SOAK=<SOAK>],
   [SOAKLEFT=<SOAKLEFT>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1::ADMINSTATE=DOWN,LINKSTATE=DOWN,MTU=1500,
   FLOWCTRL=SYMMETRIC,DUPLEX=AUTO,SPEED=AUTO,FLOW=FLOW,
   EXPDUPLEX=EXPDUPLEX,EXPSPEED=EXPSPEED,VLANCOS=VLANCOS,
   IPTOS=IPTOS,OPTICS=1000-BASE-LX,NAME=\"FSTEPORT\",SOAK=32,
   SOAKLEFT=\"12-25\":OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<ADMINSTATE>	(Optional) Administration type. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<LINKSTATE>	(Optional) Link protocol. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<MTU>	(Optional) Maximum transmission unit. MTU is an integer.
<FLOWCTRL>	(Optional) Flow control. The parameter type is FLOW, which is the type of flow control that has been negotiated for an Ethernet port.
• ASYMMETRIC	Asymmetric flow control
• ASYMMETRIC_LOCAL	Asymmetric local flow control
• NONE	No flow control
• PASSTHRU	Passthrough flow control
• SYMMETRIC	Symmetric flow control
<DUPLEX>	(Optional) Duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<SPEED>	(Optional) Speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Mbps

• 10_GBPS	10 Gbps
• 10_MBPS	10 Mbps
• 1_GBPS	1 Gbps
• AUTO	Auto
<FLOW	(Optional) Flow. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<EXPDUPLEX>	(Optional) Ethernet duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<EXPSPEED>	(Optional) Ethernet speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Mbps
• 10_GBPS	10 Gbps
• 10_MBPS	10 Mbps
• 1_GBPS	1 Gbps
• AUTO	Auto
<VLANCOS>	(Optional) Priority queing threshold based on VLAN class of service of incoming Ethernet packets. VLANCOS is an integer.
<IPTOS>	(Optional) Priority queing threshold based on IP type of service of incoming Ethernet packets. IPTOS is an integer.
<OPTICS>	(Optional) GBIC type. The parameter type is OPTICS, which is the type of Gigabit Ethernet optics being used.
• 1000_BASE_CX	1000 Base CX
• 1000_BASE_LX	1000 Base LX
• 1000_BASE_SX	1000 Base SX
• 1000_BASE_ZX	1000 Base ZX
• 100_BASE_FX	100 Base FX
• 100_BASE_LX	100 Base LX
• CWDM_1470	Coarse wavelength division multiplexing (CWDM) 1470
• CWDM_1490	CWDM 1490
• CWDM_1510	CWDM 1510
• CWDM_1530	CWDM 1530
• CWDM_1550	CWDM 1550
• CWDM_1570	CWDM 1570
• CWDM_1590	CWDM 1590
• CWDM_1610	CWDM 1610
• ITU_100G_1530_33	ITU-100G 1530.33
• ITU_100G_1531_12	ITU-100G 1531.12
• ITU_100G_1531_90	ITU-100G 1531.90

• ITU_100G_1532_68	ITU-100G 1532.68
• ITU_100G_1534_25	ITU-100G 1534.25
• ITU_100G_1535_04	ITU-100G 1535.04
• ITU_100G_1535_82	ITU-100G 1535.82
• ITU_100G_1536_61	ITU-100G 1536.61
• ITU_100G_1538_19	ITU-100G 1538.19
• ITU_100G_1538_98	ITU-100G 1538.98
• ITU_100G_1539_77	ITU-100G 1539.77
• ITU_100G_1540_56	ITU-100G 1540.56
• ITU_100G_1542_14	ITU-100G 1542.14
• ITU_100G_1542_94	ITU-100G 1542.94
• ITU_100G_1543_73	ITU-100G 1543.73
• ITU_100G_1544_53	ITU-100G 1544.53
• ITU_100G_1546_12	ITU-100G 1546.12
• ITU_100G_1546_92	ITU-100G 1546.92
• ITU_100G_1547_72	ITU-100G 1547.72
• ITU_100G_1548_51	ITU-100G 1548.51
• ITU_100G_1550_12	ITU-100G 1550.12
• ITU_100G_1550_92	ITU-100G 1550.92
• ITU_100G_1551_72	ITU-100G 1551.72
• ITU_100G_1552_52	ITU-100G 1552.52
• ITU_100G_1554_13	ITU-100G 1554.13
• ITU_100G_1554_94	ITU-100G 1554.94
• ITU_100G_1555_75	ITU-100G 1555.75
• ITU_100G_1556_55	ITU-100G 156.55
• ITU_100G_1558_17	ITU-100G 1558.17
• ITU_100G_1558_98	ITU-100G 1558.98
• ITU_100G_1559_79	ITU-100G 1559.79
• ITU_100G_1560_61	ITU-100G 1560.61
• UNKNOWN	Unknown
<NAME>	(Optional) Name. NAME is a string.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.

<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for <SOAKLEFT> are as follows: • When the port is in OOS, OOS_MT or IS state, the parameter will not appear. • When the port is in OOS_AINS state but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<PST_PSTQ>	Administrative state in the PST-PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.46 RTRV-G1000

(Cisco ONS 15454) The Retrieve G1000 Facility (RTRV-G1000) command retrieves the G1000 facilities configuration.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format

RTRV-G1000:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-G1000:TID:FAC-1-1:CTAG;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[MFS=<MFS>],[FLOW=<FLOW>],[LAN=<LAN>],[OPTICS=<OPTICS>],
   [TRANS=<TRANS>],[TPORT=<TPORT>],[LOWMRK=<LOWMRK>],
   [HIWMRK=<HIWMRK>],[AUTONEG=<AUTONEG>],[ENCAP=<ENCAP>],
   [NAME=<NAME>],[SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1::MFS=9032,FLOW=N,LAN=ASYMMETRIC,OPTICS=UNKNOWN,TRANS=NONE,
   TPORT=FAC-5-1,LOWMRK=20,HIWMRK=492,AUTONEG=Y,ENCAP=GFP_T,
   NAME=\"G1000 PORT\",SOAK=32,SOAKLEFT=\"12-25\":OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<MFS>	Maximum frame size. The parameter type is MFS_TYPE, which is the maximum frame size used by an Ethernet card.
• 1548	Normal frame size
• JUMBO	Jumbo frame size
<FLOW>	Flow control. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<LAN>	(Optional) Local-area network. The parameter type is FLOW, which is the type of flow control that has been negotiated for an Ethernet port.
• ASYMMETRIC	Asymmetric flow control
• ASYMMETRIC_LOCAL	Asymmetric local flow control
• NONE	No flow control
• PASSTHRU	Passthrough flow control
• SYMMETRIC	Symmetric flow control
<OPTICS>	(Optional) GBIC type. The parameter type is OPTICS, which is the type of Gigabit Ethernet optics being used.

• 1000_BASE_CX	1000 Base CX
• 1000_BASE_LX	1000 Base LX
• 1000_BASE_SX	1000 Base SX
• 1000_BASE_ZX	1000 Base ZX
• CWDM_1470	CWDM 1470
• CWDM_1490	CWDM 1490
• CWDM_1510	CWDM 1510
• CWDM_1530	CWDM 1530
• CWDM_1550	CWDM 1550
• CWDM_1570	CWDM 1570
• CWDM_1590	CWDM 1590
• CWDM_1610	CWDM 1610
• ITU_100G_1530_33	ITU-100G 1530.33
• ITU_100G_1531_12	ITU-100G 1531.12
• ITU_100G_1531_90	ITU-100G 1531.90
• ITU_100G_1532_68	ITU-100G 1532.68
• ITU_100G_1534_25	ITU-100G 1534.25
• ITU_100G_1535_04	ITU-100G 1535.04
• ITU_100G_1535_82	ITU-100G 1535.82
• ITU_100G_1536_61	ITU-100G 1536.61
• ITU_100G_1538_19	ITU-100G 1538.19
• ITU_100G_1538_98	ITU-100G 1538.98
• ITU_100G_1539_77	ITU-100G 1539.77
• ITU_100G_1540_56	ITU-100G 1540.56
• ITU_100G_1542_14	ITU-100G 1542.14
• ITU_100G_1542_94	ITU-100G 1542.94
• ITU_100G_1543_73	ITU-100G 1543.73
• ITU_100G_1544_53	ITU-100G 1544.53
• ITU_100G_1546_12	ITU-100G 1546.12
• ITU_100G_1546_92	ITU-100G 1546.92
• ITU_100G_1547_72	ITU-100G 1547.72
• ITU_100G_1548_51	ITU-100G 1548.51
• ITU_100G_1550_12	ITU-100G 1550.12
• ITU_100G_1550_92	ITU-100G 1550.92
• ITU_100G_1551_72	ITU-100G 1551.72
• ITU_100G_1552_52	ITU-100G 1552.52
• ITU_100G_1554_13	ITU-100G 1554.13
• ITU_100G_1554_94	ITU-100G 1554.94
• ITU_100G_1555_75	ITU-100G 1555.75
• ITU_100G_1556_55	ITU-100G 156.55
• ITU_100G_1558_17	ITU-100G 1558.17

• ITU_100G_1558_98	ITU-100G 1558.98
• ITU_100G_1559_79	ITU-100G 1559.79
• ITU_100G_1560_61	ITU-100G 1560.61
• UNKNOWN	Unknown Optical Type
• UNPLUGGED	Unplugged
<TRANS>	(Optional) Transponder mode. The parameter type is TRANS_MODE, which is the G1000 transponder mode.
• BI	Bidirectional
• NONE	Not in transponder mode
• UNI	Unidirectional
<TPORT>	(Optional) Transponding port access identifier from the "25.15 FACILITY" section on page 25-33.
<LOWMRK>	(Optional) Low watermark value. LOWMRK is an integer.
<HIWMRK>	(Optional) High watermark value. HIWMRK is an integer.
<AUTONEG>	(Optional) Automatic negotiation. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<ENCAP>	(Optional) Frame encapsulation type. The parameter type is ENCAP, which is the frame encapsulation type.
• GFP_F	GFP frame mode
• GFP_T	GFP transparent mode
• HDLC	HDLC frame mode
• HDLC_LEX	HDLC LAN extension frame mode
• HDLC_X86	HDLC X.86 frame mode
<NAME>	(Optional) Name. NAME is a string.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1-minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are as follows: • When the port is in OOS, OOS_MT or IS state, the parameter will not appear. • When the port is in OOS_AINS state but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<PSTPSTQ>	Administrative state in the PST-PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous

• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.47 RTRV-GFP

(Cisco ONS 15454, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Generic Framing Protocol (RTRV-GFP) command retrieves GFP information for the ONS 15454 CE-100T-8 and CE-1000-4 cards, the ONS 15454 FC_MR-4 card, and the ONS 15310-CL CE-100T-8 card.

Usage Guidelines

None

Category

Ports

Security

Retrieve

Input Format

RTRV-GFP:[<TID>]:<SRC>:<CTAG>;

Input Example

RTRV-GFP:CISCO:FAC-1-1:123;

Input Parameters

<SRC>	Source access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null. **Note** VFAC AID is used for the CE-100T-8 cards on 15310-CL and 15454. ML-100T-8 GFP management is done by the Cisco IOS CLI and not by the TL1 interface. FAC AID is used for 15454 FC_MR-4

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[FCS=<FCS>],[AUTOTHGFPBUF=<AUTOTHGFPBUF>],
   [GFPBUF=<GFPBUF>],[FILTER=<FILTER>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1::FCS=FCS-32,AUTOTHGFPBUF=Y,GFPBUF=16,FILTER=EGRESS"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<FCS>	(Optional) Payload frame check sequence. The parameter type is FCS, which is the frame check sequence.
• FCS-16	Frame check sequencing using 16 bits
• FCS-32	Frame check sequencing using 32 bits
• NONE	No frame check sequence
<AUTOTHGFPBUF>	(Optional) Flag used to indicate whether PDI-P should be generated on the outgoing VT-structured STSs. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<GFPBUF>	(Optional) GFPBUF is an integer.
<FILTER>	(Optional) Parameter type is GFP_FILTER, which is the filter.
• EGRESS	Activate filter on egress port.
• NONE	Turn off filter.

21.48 RTRV-GIGE

(Cisco ONS 15454, ONS 15600) The Retrieve Gigabit Ethernet (RTRV-GIGE) command retrieves the front-end port information for a 1 Gigabit Ethernet card.

Usage Guidelines

None

Category

Ports

Security

Retrieve

Input Format

RTRV-GIGE:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-GIGE:TID:FAC-1-1:CTAG;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:,,<ROLE>,<STATUS>:[ADMINSTATE=<ADMINSTATE>],
   [LINKSTATE=<LINKSTATE>],[MTU=<MTU>],[ENCAP=<ENCAP>],
   [FLOWCTRL=<FLOWCTRL>],[AUTONEG=<AUTONEG>],[HIWMRK=<HIWMRK>],
   [LOWMRK=<LOWMRK>],[OPTICS=<OPTICS>],[DUPLEX=<DUPLEX>],
   [SPEED=<SPEED>],[NAME=<NAME>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],
   [SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>]:<PST>,<SST>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1:,,WORK,ACT:ADMINSTATE=DOWN,LINKSTATE=DOWN,MTU=1548,
   ENCAP=GFP-F,FLOWCTRL=SYMMETRIC,AUTONEG=Y,HIWMRK=485,LOWMRK=25,
   OPTICS=1000_BASE_SX,DUPLEX=AUTO,SPEED=AUTO,NAME=`"GIGEPORT\",
   FREQ=1550,LOSSB=SX,SOAK=32, SOAKLEFT=\"12-22\":IS,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<ROLE>	Identifies the port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	Identifies a port status in a Y-cable protection scheme. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<ADMINSTATE>	(Optional) Administration type. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up

<LINKSTATE>	(Optional) Link protocol. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<MTU>	(Optional) Maximum transmission unit. MTU is an integer.
<ENCAP>	(Optional) Encapsulation frame type. The parameter type is ENCAP, which is the frame encapsulation type.
• GFP_F	GFP Frame Mode
• GFP_T	GFP Transparent Mode
• HDLC	HDLC Frame Mode
• HDLC_LEX	HDLC LAN Extension Frame Mode
• HDLC_X86	HDLC X.86 Frame Mode
<FLOWCTRL>	(Optional) Flow control. The parameter type is FLOW, which is the type of flow control that has been negotiated for an Ethernet port.
• ASYMMETRIC	Asymmetric flow control
• ASYMMETRIC_LOCAL	Asymmetric local flow control
• NONE	No flow control
• PASSTHRU	Passthrough flow control
• SYMMETRIC	Symmetric flow control
<AUTONEG>	(Optional) Automatic negotiation. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<LOWMRK>	(Optional) Low watermark value. LOWMRK is an integer.
<HIWMRK>	(Optional) High watermark value. HIWMRK is an integer.
<OPTICS>	(Optional) Optics type. The parameter type is OPTICS, which is the type of Gigabit Ethernet optics being used.
• 1000_BASE_CX	1000 Base CX
• 1000_BASE_LX	1000 Base LX
• 1000_BASE_SX	1000 Base SX
• 1000_BASE_ZX	1000 Base ZX
• CWDM_1470	CWDM 1470
• CWDM_1490	CWDM 1490
• CWDM_1510	CWDM 1510
• CWDM_1530	CWDM 1530
• CWDM_1550	CWDM 1550
• CWDM_1570	CWDM 1570
• CWDM_1590	CWDM 1590
• CWDM_1610	CWDM 1610
• ITU_100G_1530_33	ITU-100G 1530.33
• ITU_100G_1531_12	ITU-100G 1531.12
• ITU_100G_1531_90	ITU-100G 1531.90

• ITU_100G_1532_68	ITU-100G 1532.68
• ITU_100G_1534_25	ITU-100G 1534.25
• ITU_100G_1535_04	ITU-100G 1535.04
• ITU_100G_1535_82	ITU-100G 1535.82
• ITU_100G_1536_61	ITU-100G 1536.61
• ITU_100G_1538_19	ITU-100G 1538.19
• ITU_100G_1538_98	ITU-100G 1538.98
• ITU_100G_1539_77	ITU-100G 1539.77
• ITU_100G_1540_56	ITU-100G 1540.56
• ITU_100G_1542_14	ITU-100G 1542.14
• ITU_100G_1542_94	ITU-100G 1542.94
• ITU_100G_1543_73	ITU-100G 1543.73
• ITU_100G_1544_53	ITU-100G 1544.53
• ITU_100G_1546_12	ITU-100G 1546.12
• ITU_100G_1546_92	ITU-100G 1546.92
• ITU_100G_1547_72	ITU-100G 1547.72
• ITU_100G_1548_51	ITU-100G 1548.51
• ITU_100G_1550_12	ITU-100G 1550.12
• ITU_100G_1550_92	ITU-100G 1550.92
• ITU_100G_1551_72	ITU-100G 1551.72
• ITU_100G_1552_52	ITU-100G 1552.52
• ITU_100G_1554_13	ITU-100G 1554.13
• ITU_100G_1554_94	ITU-100G 1554.94
• ITU_100G_1555_75	ITU-100G 1555.75
• ITU_100G_1556_55	ITU-100G 156.55
• ITU_100G_1558_17	ITU-100G 1558.17
• ITU_100G_1558_98	ITU-100G 1558.98
• ITU_100G_1559_79	ITU-100G 1559.79
• ITU_100G_1560_61	ITU-100G 1560.61
• UNKNOWN	Unknown Optical Type
• UNPLUGGED	Unplugged
<DUPLEX>	(Optional) Duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<SPEED>	(Optional) Speed. The parameter type is ALS_MODE, which is the automatic laser shutdown mode.
• AUTO	Automatic
• DISABLED	Disabled
• MAN	Manual
• MAN-RESTART	Manual restart for test

<NAME>	(Optional) Name. NAME is a string.
<FREQ>	(Optional) Parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35

• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17

• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27

• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03

• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) Parameter type is REACH (reach values).
• AUTOPROV	Autoprovisioning
• CX	Reach CX
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• VX	Reach VX
• ZX	Reach ZX
<SOAK>	(Optional) IS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.

<SOAKLEFT>	(Optional) OOS-AINS to IS transition soak time as measured in one minute intervals. The format is HH-MM, where HH ranges from 00 to 48, and MM ranges from 00 to 59. The rules for SOAKLEFT are as follows: • When the port is in OOS, OOS-MT to IS state, the parameter will not be displayed. • When the port is in IS-AINS state, but the countdown has not stated due to faulty signal, the value will be SOAKLEFT=\"NOT-STARTED\". •When the port is in IS-AINS state and the countdown has started, the value will be shown in HH-MM format.
<PST>	Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• IS	In Service
• OOS	Out of Service
<SST>	Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.49 RTRV-HDLC

(Cisco ONS 15600) The Retrieve High-Level Data Link Control (RTRV-HDLC) command retrieves HDLC-related attributes.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-HDLC:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-HDLC:TID:VFAC-SLOT-PORT:CTAG;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. The ONS 15600 ASAP card uses the VFAC AID.

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>::[FCS=<FCS>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"VFAC-SLOT-PORT::FCS=FCS-16"
;

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. The ONS 15600 ASAP card uses the VFAC AID.
<FCS>	(Optional) Payload frame check sequence. The parameter type is FCS, which is the frame check sequence.
• FCS-16	Frame check sequencing using 16 bits
• FCS-32	Frame check sequencing using 32 bits
• NONE	No frame check sequence

21.50 RTRV-HDR

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Header (RTRV-HDR) command retrieves the header of a TL1 response message. It is used by TL1 clients to determine if the link to the NE is still active and if the NE is responding to commands.

Usage Guidelines

None

Category

System

Security

Retrieve

Input Format

RTRV-HDR:[<TID>]::<CTAG>;

Input Example RTRV-HDR:SONOMA::232;

Input Parameters None that require description

21.51 RTRV-INV

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Inventory (RTRV-INV) command retrieves a list of the equipment inventory. For each unit in the system, the list identifies the unit's firmware numbers and Common Language Equipment Identifier (CLEI) codes, and the system's product ID and version ID. This command also retrieves the inventory information from pluggable modules using the AID PPM-SLOT-PORT format.

For multishelf, the inventory parameters are retrieved by using RTRV-INV and the BP AID. Because there is more that one shelf, the SHELFID is specified in BP AID.

Usage Guidelines None

Category System

Security Retrieve

Input Format RTRV-INV:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-INV:OCCIDENTAL:SLOT-15:301;

RTRV-INV:OCCIDENTAL:BP-ALL:116;

RTRV-INV:OCCIDENTAL:BP-1:116;

Input Parameters

<AID>	Access identifier from the "25.14 EQPT" section on page 25-31 or ALL. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,<AIDTYPE>::[PN=<PN>],[HWREV=<HWREV>],[FWREV=<FWREV>],[SN=<SN>],
   [CLEI=<CLEI>],[TWL1=<TWL>],[PLUGINVENDORID=<PLUGINVENDORID>],
   [PLUGINPN=<PLUGINPN>],[PLUGINHWREV=<PLUGINHWREV>],
   [PLUGINFWREV=<PLUGINFWREV>],[PLUGINSN=<PLUGINSN>],
   [ILOSSREF=<ILOSSREF>],[PID=<PID>],[VID=<VID>],[FPGA=<FPGA>],
   [VENDORID=<VENDORID>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "SLOT-15,OC3-IR-4::PN=87-31-00002,HWREV=004K,FWREV=76-99-00009-004A,
   SN=013510,CLEI=NOCLEI,TWL1=1546.12,PLUGINVENDORID=012345,PLUGINPN=ABCDE,
   PLUGINHWREV=ABCDE,PLUGINFWREV=01-02-03,PLUGINSN=01234,ILOSSREF=1.0,
   PID=CISCO_ONS15454,VID=V01,FPGA=F451,VENDORID=NAME"
;
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "BP-1,BP::PN=87-31-00002,HWREV=004K,FWREV=76-99-00009-004A,SN=013510,
   CLEI=NOCLEI"
;
```

Output Parameters

<AID>	Access identifier from the "25.14 EQPT" section on page 25-31
<AIDTYPE>	Specifies the type of (AID) facility, link or other addressable entity targeted by the message. AIDTYPE is a string.
<PN>	(Optional) Hardware part number. PN is a string.
<HWREV>	(Optional) Hardware revision. HWREV is a string.
<FWREV>	(Optional) Firmware revision. FWREV is a string.
<SN>	(Optional) Serial number. SN is a string.
<CLEI>	(Optional) Common language equipment identifier code for the equipment. CLEI is a string.
<TWL1>	(Optional) Tunable wavelength 1. The parameter type is OPTICAL_WLEN (optical wavelength). Possible values are the same as those for the TWL4 parameter (see below).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73

• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52

• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83

• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88

• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<PLUGINVENDORID>	(Optional) Plugin vendor ID. Integer.

<PLUGINPN>	(Optional) Third-party plug-in module HW part number. Applicable only to optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and OADM cards. PLUGINPN is a string.
<PLUGINHWREV>	(Optional) Third-party plug-in module hardware revision. Applicable only to optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and OADM cards. PLUGINHWREV is a string.
<PLUGINFWREV>	(Optional) Third-party plug-in module firmware. Applicable only to optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and OADM cards. PLUGINFWREV is a string.
<PLUGINSN>	(Optional) Third-party plug-in module serial number. Applicable only to optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and OADM cards. PLUGINSW is a string.
<ILOSSREF>	(Optional) The insertion loss reference calculated by the unit as worst insertion loss of all the unit. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes
<PID>	(Optional) Product ID of the module. PID is a string.
<VID>	(Optional) Vendor ID. VID is a string.
<FPGA>	(Optional) FPGA version. FPGA is a string.
<VENDORID>	(Optional) Vendor ID. VENDORID is a string.

21.52 RTRV-LNK

(Cisco ONS 15454) The Retrieve Link (RTRV-LNK) command retrieves all the (optical) links created in the NE. The end information is returned along with the type of (optical) link.

Usage Guidelines None

Category DWDM

Security Retrieve

Input Format RTRV-LNK:[<TID>]::<CTAG>;

Input Example RTRV-LNK:PENNGROVE::114;

Input Parameters

None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<FROM>,<TO>::[OLNKT=<OLNKT>],[CTYPE=<CTYPE>],[RDIRN=<RDIRN>],
   [BAND=<BAND>],[WLEN=<WLEN>]:<PST_PSTQ>,[<SST>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "BAND-6-1-TX,BAND-13-1-RX::OLNKT=HITLESS,CTYPE=PROV,RDIRN=W_E,
   BAND=1530.32-1532.68,WLEN=1530.32:OOS-AU,AINS"
;
```

Output Parameters

<FROM>	Access identifier from the "25.1 ALL" section on page 25-1. Identifies an entity at one end of the optical link.
<TO>	Access identifier from the "25.1 ALL" section on page 25-1. Identifies an entity at the other end of the optical link.
<OLNKT>	(Optional) Optical link type. The parameter type is OPTICAL_LINK_TYPE, which is the type of optical link between two optical facilities.
• ADD-DROP	Link between two points that results in an add/drop connection from a drop point to an add point
• HITLESS	Link between two OMS points that results in a hitless connection from a drop point to an add point of a consecutive band/channel filter
• OTS	Link between two OTS points
<CTYPE>	(Optional) The type of cross-connection. Indicates if the optical link is provisioned by the user or automatically created by the NE. The parameter type is CREATION_TYPE, which is the optical link creation type.
• AUTO	Automatically created by the NE
• PROV	Provisioned by the user
<RDIRN>	(Optional) Ring directionality of the optical line. The parameter type is RDIRN_MODE, which is the optical ring directionality.
• E-W	The direction of the signal is from east to west (clockwise).
• W-E	The direction of the signal is from west to east (counterclockwise).
<BAND>	(Optional) The optical band (group of four contiguous wavelengths) for this optical link. BAND is present only when there is a link between two OMS entities. The parameter type is OPTICAL_BAND.
• 1530.33 to 1532.68	Band 1
• 1534.25 to 1536.61	Band 2
• 1538.19 to 1540.56	Band 3

• 1542.14 to 1544.53	Band 4
• 1546.12 to 1548.51	Band 5
• 1550.12 to 1552.52	Band 6
• 1554.13 to 1556.55	Band 7
• 1558.17 to 1560.61	Band 8
• USE-DEFAULT	This band is not yet configured/retrieved from unit
<WLEN>	(Optional) Optical wavelength for this optical link. WLEN is present only when there is a link between two OCH entities. The parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16

• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75

• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77

• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04

• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.53 RTRV-LNK-<MOD2O>

(Cisco ONS 15454) The Retrieve Optical Link for OCH, OMS, or OTS (RTRV-LNK-<MOD2O>) command retrieves any optical link associated with the entered AIDs or AID range. The end information is returned along with the type of optical link.

Usage Guidelines None

Category DWDM

Security Retrieve

Input Format RTRV-LNK-<MOD2O>:[<TID>]:<AID>:<CTAG>:::[OLNKT=<OLNKT>],[CTYPE=<CTYPE>],[RDIRN=<RDIRN>];

Input Example RTRV-LNK-OMS:PENNGROVE:ALL:114:::OLNKT=HITLESS,CTYPE=AUTO,RDIRN=W-E;

Input Parameters

<AID>	Access identifier from the "25.4 BAND" section on page 25-16. Identifies facilities to check for optical link membership. It can be an OPTICAL_AID AID or an ALL AID. The ALL AID defaults to NE, which reports all the existing optical links of the NE. Must not be null.
<OLNKT>	Optical link type. A null value is equivalent to ALL. The parameter type is OPTICAL_LINK_TYPE, which is the type of optical link between two optical facilities.
• ADD-DROP	Link between two points that results in an add/drop connection from a drop point to an add point
• HITLESS	Link between two OMS points that results in a hitless connection from a drop point to an add point of a consecutive band/channel filter
• OTS	Link between two OTS points
<CTYPE>	The type of cross-connection. Indicates if the optical link is provisioned by the user or automatically created by the NE. A null value is equivalent to ALL. The parameter type is CREATION_TYPE, which is the optical link creation type.
• AUTO	Automatically created by the NE
• PROV	Provisioned by the user
<RDIRN>	Ring directionality of the optical line. A null value is equivalent to ALL. The parameter type is RDIRN_MODE, which is the optical ring directionality.
• E-W	The direction of the signal is from east to west (clockwise).
• W-E	The direction of the signal is from west to east (counterclockwise).

Output Format

SID DATE TIME
M CTAG COMPLD
"<FROM>,<TO>::[OLNKT=<OPTICALLINKTYPE>],[CTYPE=<CREATIONTYPE>],
[RDIRN=<RDIRN>],[BAND=<BAND>],[WLEN=<WLEN>]:<PST_PSTQ>,[<SST>]"
;

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "BAND-6-1-TX,BAND-13-1-RX::OLNKT=HITLESS,CTYPE=PROV,RDIRN=W_E,
   BAND=1530.32-1532.68,WLEN=1530.32:OOS-AU,AINS"
;
```

Output Parameters

<FROM>	Access identifier from the "25.4 BAND" section on page 25-16. Identifies an entity at one end of the optical link.
<TO>	Access identifier from the "25.4 BAND" section on page 25-16. Identifies an entity at the other end of the optical link.
<OPTICALLINKTYPE>	(Optional) Optical link type. The parameter type is OPTICAL_LINK_TYPE, which is the type of optical link between two optical facilities.
• ADD-DROP	Link between two points that results in an add/drop connection from a drop point to an add point
• HITLESS	Link between two OMS points that results in a hitless connection from a drop point to an add point of a consecutive band/channel filter
• OTS	Link between two OTS points
<CREATIONTYPE>	(Optional) Indicates whether the optical link is provisioned by the user or automatically created by the NE. The parameter type is CREATION_TYPE, which is the optical link creation type.
• AUTO	Automatically created by the NE
• PROV	Provisioned by the user
<RDIRN>	(Optional) Ring directionality of the optical line. The parameter type is RDIRN_MODE, which is the optical ring directionality.
• E-W	The direction of the signal is from east to west (clockwise).
• W-E	The direction of the signal is from west to east (counterclockwise).
<BAND>	(Optional) The optical band (group of four contiguous wavelengths) for this optical link. BAND is present only when there is a link between two OMS entities. The parameter type is OPTICAL_BAND.
• 1530.33 to 1532.68	Band 1
• 1534.25 to 1536.61	Band 2
• 1538.19 to 1540.56	Band 3
• 1542.14 to 1544.53	Band 4
• 1546.12 to 1548.51	Band 5
• 1550.12 to 1552.52	Band 6
• 1554.13 to 1556.55	Band 7
• 1558.17 to 1560.61	Band 8
• USE-DEFAULT	This band is not yet configured/retrieved from unit.
<WLEN>	(Optional) Optical wavelength for this optical link. WLEN is present only when there is a link between two OCH entities. The parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310

• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33

• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39

• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53

• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31

• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.54 RTRV-LNKTERM

(Cisco ONS 15454, ONS 15327, ONS 15310-CL) The Retrieve Provisionable Patchcord Termination (RTRV-LNKTERM) command retrieves information about one or more provisionable patchcord (PP) terminations.

Usage Guidelines

- All the terminations can be retrieved using ALL or LNKTERM-ALL as the AID.
- If the PP termination does not exist, an error message will be returned.

Category

Provisionable Patchcords

Security

Retrieve

Input Format

RTRV-LNKTERM:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-LNKTERM::LNKTERM-2:CTAG;

Input Parameters

<AID>	Access identifier from the "25.19 LNKTERM" section on page 25-39. Must not be null.

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>::PORT=<PORT>,[REMOTENODE=<REMOTENODE>],
[REMOTELNKTERMID=<REMOTELNKTERMID>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"LNKTERM-2::PORT=FAC-3-1,REMOTENODE=172.20.221.225,REMOTELNKTERMID=21"
;

Output Parameters

<AID>	Access identifier from the "25.19 LNKTERM" section on page 25-39. Must not be null.
<PORT>	Access identifier from the "25.2 AidUnionId" section on page 25-11.
<REMOTENODE>	(Optional) Remote node. REMOTENODE is a string.
<REMOTELNKTERMID>	(Optional) Remote link term ID. REMOTELNKTERMID is a string.

21.55 RTRV-LOG

Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Log (RTRV-LOG) command retrieves the alarm log of the NE.

Usage Guidelines

The only option reported for LOGNM is ALARM.

Category

Log

Security

Retrieve

Input Format

RTRV-LOG:[<TID>]::<CTAG>::<LOGNM>;

Input Example

RTRV-LOG:CERENT::123::ALARM;

Input Parameters

<LOGNM>	Log to be retrieved. The log name is ALARM. String. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,<ALMNUMBER>:CURRENT=<CURRENT>,[PREVIOUS=<PREVIOUS>],
   <CONDITION>,<SRVEFF>,[TIME=<OCRTIME>],[DATE=<OCRDAT>]:<ALMDESCR>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-3-1,18:CURRENT=MJ,PREVIOUS=CL,EOC,NSA,TIME=16-33-04,
   DATE=1971-02-03:\"SDCC TERMINATION FAILURE\""
;
```

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1.
<ALMNUMBER>	Alarm number of the log. ALMNUMBER is an integer.
<CURRENT>	Current severity. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<PREVIOUS>	(Optional) Previous severity. The parameter type is COND_EFF, which is the state of the condition upon the affected unit.
• CL	Standing condition cleared
• SC	Standing condition raised
• TC	Transient condition
<CONDITION>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an ONS 15454, ONS 15327, ONS 15310-CL, or ONS 15600 shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 26, "Conditions" for a list of conditions.
<OCRTIME>	(Optional) Time when alarm was triggered.

<OCRDATE>	(Optional) Date when the specific event or violation occurred. Date when alarm was triggered.
<ALMDESCR>	Alarm description. ALMDESCR is a string.

21.56 RTRV-MAP-NETWORK

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Map Network (RTRV-MAP-NETWORK) command retrieves all the NE attributes which are accessible from the GNE (gateway NE). The NE attributes include the node IP address (IPADDR), node name (TID), and the product type of the NE (PRODUCT).

Usage Guidelines The product type field in the response will appear as “unknown” for nodes that are not running the same version of software.

Category System

Security Retrieve

Input Format RTRV-MAP-NETWORK:[<TID>]::<CTAG>;

Input Example RTRV-MAP-NETWORK:CISCO::123;

Input Parameters None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   “<IPADDR>,<NODENAME>,<PRODUCT>”
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   “172.20.222.225,TID-000,15454”
;
```

Output Parameters

<IPADDR>	Node IP address. IPADDR is a string.
<NODENAME>	Node name (TID). NODENAME is a string.

<PRODUCT>	Product type of the NE. The parameter type is PRODUCT_TYPE, which is the product (NE) type.
• ONS15310CL	ONS 15310-CL
• ONS15310MA	ONS 15310-MA
• ONS15327	ONS 15327
• ONS15454	ONS 15454
• ONS15454SDH	ONS 15454 SDH
• ONS15455	ONS 15454 SDH
• ONS15600	ONS 15600
• UNKNOWN	Unknown product type

21.57 RTRV-NE-APC

(Cisco ONS 15454) The Retrieve Network Amplification Power Control (RTRV-NE-APC) command retrieves the APC application ports involved in node set-up regulation.

Usage Guidelines

None

Category

System

Security

Maintenance

Input Format

RTRV-NE-APC:[<TID>]:[<AID>]:<CTAG>;

Input Example

RTRV-NE-APC:PENNGROVE:CHAN-16-1-RX:114;

Input Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19. A null value is equivalent to ALL.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,<MOD>::[MODIFDAT=<MODIFDAT>],[MODIFTM=<MODIFTM>],
   [CHECKDAT=<CHECKDAT>],[CHECKTM=<CHECKTM>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "CHAN-16-1-RX,OCH::MODIFDAT=04-11-02,MODIFTM=12-35-00,
   CHECKDAT=04-11-02,CHECKTM=12-55-00"
;
```

Output Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19.
<MOD>	AID type. The parameter type is MOD2O, which is the facility type for MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards.
• 4GFC	4 Gbps Fibre channel
• 4GFICON	4 Gbps Fiber connection
• ISC3PEER1G	1Gbps ISC3 peer
• ISC3PEER2G	2Gbps ISC3 peer
• ISC3PEER2R	1Gbps ISC1, ISC2, and ISC3 compatibility
• ISCCOMPAT	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• OCH	Optical channel
• OMS	Optical multiplexer section
• OTS	Optical trace section
<MODIFDAT>	(Optional) The last date when the APC application modified this port. The format of MODIFDAT is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31. MODIFDAT is a date.
<MODIFTM>	(Optional) The last time when the APC application modified this port. The format of MODIFTM is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59. MODIFTM is a time.
<CHECKDAT>	(Optional) The last date when the APC application controlled and validated this port. The format of CHECKDAT is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31. CHECKDAT is a date.
<CHECKTM>	(Optional) The last time when the APC application controlled and validated this port. The format of CHECKTM is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59. CHECKTM is a time.

21.58 RTRV-NE-GEN

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Network Element General (RTRV-NE-GEN) command retrieves the general NE attributes.

Usage Guidelines ETHIPADDR and ETHIPMASK are disabled in this command. ETHIPADDR and ETHIPMASK are used to show the Ethernet interface address and mask. Both default to the nodes' IP address and masks.

Category System

Security Retrieve

Input Format RTRV-NE-GEN:[<TID>]::<CTAG>;

Input Example RTRV-NE-GEN:CISCO::123;

Input Parameters None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "[IPADDR=<IPADDR>],[IPMASK=<IPMASK>],[DEFRTR=<DEFRTR>],
   [IIOPPORT=<IIOPPORT>],[NTP=<NTP>],[ETHIPADDR=<ETHIPADDR>],
   [ETHIPMASK=<ETHIPMASK>],[NAME=<NAME>],[SWVER=<SWVER>],[LOAD=<LOAD>],
   [PROTSWVER=<PROTSWVER>],[PROTLOAD=<PROTLOAD>],[DEFDESC=<DEFDESC>],
   [PLATFORM=<PLATFORM>],[SECUMODE=<SECUMODE>],[SUPPRESSIP=<SUPPRESSIP>],
   [MODE=<MODE>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "IPADDR=192.168.100.52,IPMASK=255.255.255.0,DEFRTR=192.168.100.1,
   IIOPPORT=57970,NTP=192.168.100.52,ETHIPADDR=172.20.208.225,
   ETHIPMASK=255.255.255.0,NAME="NODENAME",SWVER=2.01.03,
   LOAD=02.13-E09A-08.15,PROTSWVER=2.01.02,PROTLOAD=02.12-E09A-09.25,
   DEFDESC=\"NE DEFAULTS FEATURE\",PLATFORM=15454-ANSI,SECUMODE=NORMAL,
   SUPPRESSIP=YES,MODE=SINGLESHELF"
;
```

Output Parameters

<IPADDR>	(Optional) Node IP address. IPADDR is a string.
<IPMASK>	(Optional) Node IP mask. IPMASK is a string.
<DEFRTR>	(Optional) Node default router. DEFRTR is a string.
<IIOPPORT>	(Optional) Node IIOP port. IIOPPORT is an integer.
<NTP>	(Optional) Node NTP timing source address. NTP is a string.
<ETHIPADDR>	Not supported in this release.

<ETHIPMASK>	Not supported in this release.
<NAME>	(Optional) Name. NAME is a string.
<SWVER>	(Optional) Software version. SWVER is a string.
<LOAD>	(Optional) Load. LOAD is a string.
<PROTSWVER>	(Optional) Protect software version. PROTSWVER is a string.
<PROTLOAD>	(Optional) Protect load. PROTLOAD is a string.
<DEFDESC>	(Optional) Provides a default description for the NE. DEFDESC is a string.
<PLATFORM>	(Optional) Platform. PLATFORM is a string.
<SECUMODE>	(Optional) Security mode of the NE. The parameter type is NE_SECURE_MODE, which is the security mode of the NE.
• REPEATER	The front port and backplane are sharing the same IP network.
• SECURE	The front port and backplane are independent and in different IP subnetworks.
<SUPPRESSIP>	(Optional) Parameter type is YES_NO, which is whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
<MODE>	(Optional) Indicates the AID mode to access shelf identifier objects. Defaults to SINGLESHELF. This field is always set to MULTISHELF in the case of DWDM nodes with more than one shelf managed. Parameter type is SHELF_MODE which is the NE mode.
• SINGLESHELF	The NE contains only one shelf and the AID representation does not consider the shelf identifier for command requests/response and autonomous reports.
• MULTISHELF	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style.
• MULTISHELFETH	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style. The shelves are connected by means of an external Ethernet switch.

21.59 RTRV-NE-IPMAP

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Network Element Internet Protocol Map (RTRV-NE-IPMAP) command retrieves the IP address and node name of the NEs that have a DCC connection with this NE.

Usage Guidelines

This command only reports the discovered DCC link. If there is no discovered DCC link on the port (or the node), the command will return COMPLD without IPMAP information.

Category Network

Security Retrieve

Input Format RTRV-NE-IPMAP:[<TID>]:[<AID>]:<CTAG>;

Input Example RTRV-NE-IPMAP:CISCO:FAC-12-1:123;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. The port of an NE carrying the DCC connection. A null value defaults to the whole NE. A null value is equivalent to ALL.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:<IPADDR>,<NODENAME>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-12-1:172.20.208.225,NODENAME2"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Port of an NE carrying the DCC connection.
<IPADDR>	Node IP address. IPADDR is a string.
<NODENAME>	Network element name. NODENAME is a string.

21.60 RTRV-NE-PATH

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA) The Retrieve Network Element Path (RTRV-NE-PATH) command retrieves the path-level attributes on an NE.

Usage Guidelines None

Category System

Security Retrieve

Input Format RTRV-NE-PATH:[<TID>]::<CTAG>[::::];

Input Example RTRV-NE-PATH:::CTAG;

Input Parameters None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "[PDIP=<PDIP>],[XCMODE=<XCMODE>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "PDIP=Y,XCMODE=MIXED"
;
```

Output Parameters

<PDIP>	(Optional) Flag used to indicate whether PDI-P should be generated on the outgoing VT-structured STSs. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<XCMODE>	(Optional) Cross-connect mode. The parameter type is XCMODE, which is applicable only to a node with cross-connect cards that support cross-connect mode change.
• MIXED	Both VT1 and VT2 cross-connects can be provisioned on the node.
• VT1	Only VT1 cross-connects can be provisioned on the node.
• VT2	Only VT2 cross-connects can be provisioned on the node.

21.61 RTRV-NE-SYNCN

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Network Element Synchronization (RTRV-NE-SYNCN) command retrieves the synchronization attributes of the NE.

Usage Guidelines

- Although mixed mode timing is supported in this release, it is not recommended. Refer to the *Cisco ONS SONET TL1 Reference Guide* for more information.

- The timing modes are:
  - External mode: The node derives its timing from the BITS inputs.
  - Line mode: The node derives its timing from the SONET line(s).
  - Mixed mode: The node derives its timing from the BITS input or SONET lines.

Category

Synchronization

Security

Retrieve

Input Format

RTRV-NE-SYNCN:[<TID>]:[<AID>]:<CTAG>[::::];

Input Example

RTRV-NE-SYNCN:CISCO:SHELF-2:123;

RTRV-NE-SYNCN:CISCO::123;

Input Parameters

<AID>	The node or shelf access identifier from the "25.24 SHELF" section on page 25-41. If omitted it addresses the node or first shelf of the node. Must not be null

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "[<AID>]::[TMMD=<TMMD>],[SSMGEN=<SSMGEN>],[QRES=<QRES>],
   [RVRTV=<RVRTV>],[RVTM=<RVTM>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "SHELF-2::TMMD=LINE,SSMGEN=GEN1,QRES=ABOVE-PRS,RVRTV=Y,RVTM=8.0"
;
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "::TMMD=LINE,SSMGEN=GEN1,QRES=ABOVE-PRS,RVRTV=Y,RVTM=8.0"
;
```

Output Parameters

<AID>	The node or shelf access identifier from the "25.24 SHELF" section on page 25-41. If omitted it addresses the node or first shelf of the node. Must not be null
<TMMD>	(Optional) Timing mode. The parameter type is TIMING_MODE, which is the timing mode for the current node.

• EXTERNAL	The node derives its clock from the BITS input.
• LINE	The node derives its clock from the SONET lines.
• MIXED	The node derives its clock from the mixed timing mode.
<SSMGEN>	(Optional) Synchronization status message generator. The parameter type is SYNC_GENERATION, which is the synchronization status message set generation.
• GEN1	First generation SSM set
• GEN2	Second generation SSM set
<QRES>	(Optional) Quality of the RES. The parameter type is SYNC_QUALITY_LEVEL, which is the network synchronization quality level.
• ABOVE-G811	Better than G811
• ABOVE-STU_SDH	Between STU_SDH and G811 (default setting)
• ABOVE-G812T	Between G812T and STU_SDH
• ABOVE-G812L	Between G812L and G812T
• ABOVE-SETS	Between SETS and G812L
• BELOW-SETS	Below SETS but still usable
• SAME-AS-DUS_SDH	Disable the RES message by equating to DUS_SDH
<RVRTV>	(Optional) Revertive mode. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.

21.62 RTRV-NE-WDMANS

(Cisco ONS 15454) The Retrieve Network Element Wavelength Division Multiplexing Automatic Node Setup (RTRV-NE-WDMANS) command retrieves the optical node setup (WDMANS) application ports involved in node setup regulation.

Usage Guidelines None

Category DWDM

Security Retrieve

Input Format

RTRV-NE-WDMANS:[<TID>]:[<AID>]:<CTAG>;

Input Example

RTRV-NE-WDMANS:PENNGROVE:ALL:114;

Input Parameters

<AID>	The access identifier from the "25.1 ALL" section on page 25-1. A null value is equivalent to ALL.

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>,<AIDTYPE>::[REGULATED=<REGULATED>,][PARAM=<PARAM>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"CHAN-16-1-RX,OCH::REGULATED=OUT-OF-RANGE,PARAM=VOAATTN"
;

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. AID is port regulated.
<AIDTYPE>	Specifies the type of facility, link, or other addressable entity targeted by the message. A type of access identifier. The parameter type is MOD2, which is the line/path modifier.
• 10GFC	10 Gigabit Fibre Channel
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1 Gigabit Fibre Channel
• 1GFICON	1 Gigabit FICON
• 1GISC3	1 Gbps ISC3 compatible
• 2GFC	2 Gigabit Fibre Channel
• 2GFICON	2 Gigabit FICON
• 2GISC3	2 Gbps ISC3 compatible
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• D1VIDEO	D1 video
• DS1	DS1 line of a DS3XM card
• DS3I	DS3I line
• DV6000	DV6000
• EC1	EC1 facility
• ESCON	ESCON
• ETRCLO	ETR_CLO
• FSTE	FSTE facility

• G1000	G1000 facility
• GFPOS	GFP over packet over SONET. Virtual Ports partitioned using GFP's multiplexing capability.
• GIGE	GIG Ethernet
• HDTV	HDTV
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• OC3	OC-3 facility
• OC12	OC-12 facility
• OC48	OC-48 facility
• OC192	OC-192 facility
• OCH	Optical Channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port
• STS1	STS1 path
• STS3C	STS3c path
• STS6C	STS6c path
• STS9C	STS9c path
• STS18C	STS18c path
• STS12C	STS12c path
• STS24C	STS24c path
• STS36C	STS36c path
• STS48C	STS48c path
• STS192C	STS192c path
• T1	T1/DS1 facility/line
• T3	T1/DS1 facility/line
• VT1	VT1 path
• VT2	VT2 path
<REGULATED>	(Optional) The status of the port after a node setup regulation. The parameter type is REGULATED_PORT_TYPE, which is the optical configuration types for NEs.
• FAILED	WDM-ANS encountered a failure while regulating this port.
• NOT-APPLICABLE	WDM-ANS does not foresee any algorithm or does not have any value to set for the parameter.
• OUT-OF-RANGE	WDM-ANS cannot modify the set point because the calculated value is out of the allowed range.

• PORT-IN-SERVICE	WDM-ANS cannot modify the set point because the ports are in IS state.
• REGULATED	WDM-ANS has successfully regulated this port.
• UNCHANGED	WDM-ANS has not changed this port.
<PARAM>	(Optional) The regulated parameter inside of the specified port. The parameter type is REGULATED_PARAM_NAME, which is the name of the parameter regulated by the WDMANS application.
• AMPLMODE	WDM-ANS has regulated the amplifier control mode parameter.
• CHPOWER	WDM-ANS has regulated the amplifier per the channel power parameter.
• GAIN	WDM-ANS has regulated the amplifier gain parameter.
• OPWR-LFAIL	WDM-ANS has regulated the OPWR-LFAIL threshold parameter.
• REFTILT	WDM-ANS has regulated the amplifier tilt reference parameter.
• VOAREFATTN	WDM-ANS has regulated the variable optical attenuator (VOA) attenuation reference parameter.
• VOAREFPWR	WDM-ANS has regulated the VOA power reference parameter.

21.63 RTRV-NETYPE

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Network Element Type (RTRV-NETYPE) command retrieves the NE's equipment-related information.

Usage Guidelines None

Category System

Security Retrieve

Input Format RTRV-NETYPE:[<TID>]::<CTAG>;

Input Example RTRV-NETYPE:GAUR1::1;

Input Parameters None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<VENDOR>,<MODEL>,<NETYPE>,<SW_ISSUE>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "CISCO,ONS15454,ADM&MSPP&MSTP,5.00.00"
;
```

Output Parameters

<VENDOR>	NE equipment vendor name. VENDOR is a string.
<MODEL>	NE equipment model. The parameter type is PRODUCT_TYPE, which is the product (NE) type.
• ONS15310CL	ONS 15310-CL
• ONS15310MA	ONS 15310-MA
• ONS15327	ONS 15327
• ONS15454	ONS 15454
• ONS15454SDH	ONS 15454 SDH
• ONS15455	ONS 15454 SDH
• ONS15600	ONS 15600
• UNKNOWN	Unknown product type
<NETYPE>	NE equipment type. Abbreviation of NE type can be used. The grouping sign "&" can be used to indicate multifunction NE type, for example, ADM&MSPP means Add-Drop Multiplexers and Multiservice Provisioning Platform. Listable. The parameter type is NETYPE, which is the NE equipment type.
• ADM	Add-Drop Multiplexers
• DCS	Digital Cross-Connect System
• MSPP	Multiservice Provisioning Platform
• MSSP	Multiservice Switching Platform
• MSTP	Multiservice Transport Platform
<SW_ISSUE>	The software release issue of the NE. SW_ISSUE is a string.

21.64 RTRV-OCH

(Cisco ONS 15454) The Retrieve Optical Channel (RTRV-OCH) command retrieves the attributes (service parameters) and state of an OCH facility.

Usage Guidelines

Refer to the *Cisco ONS SONET TL1 Reference Guide* for specific card provisioning rules.

Note Primary=OOS and secondary=AINS states do not apply to Ethernet mode.

Category

DWDM

Security Retrieve

Input Format RTRV-OCH:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-OCH:PENNGROVE:CHAN-6-2:236;

Input Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:,,[<ROLE>],[<STATUS>]:[RDIRN=<RDIRN>],[OPTYPE=<OPTICALPORTTYPE>],
   [OPWR=<POWER>],[EXPWLEN=<EXPWLEN>],[ACTWLEN=<ACTWLEN>],
   [ILOSS=<ILOSS>],[VOAMODE=<VOAMODE>],[VOAATTN=<VOAATTN>],
   [VOAPWR=<VOAPWR>],[VOAREFATTN=<VOAREFATTN>],
   [VOAREFPWR=<VOAREFPWR>],[REFOPWR=<REFOPWR>],[CALOPWR=<CALOPWR>],
   [CHPOWER=<CHPOWER>],[NAME=<PORTNAME>],[SFBER=<SFBER>],
   [SDBER=<SDBER>],[COMM=<COMM>],[GCCRATE=<GCCRATE>],[DWRAP=<DWRAP>],
   [FEC=<FEC>],[PAYLOADMAP=<PAYLOADMAP>],[OSFBER=<OSFBER>],
   [OSDBER=<OSDBER>],[MACADDR=<MACADDR>],[SYNCMSG=<SYNCMSG>],
   [SENDDUS=<SENDDUS>],[SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[OSPF=<OSPF>],
   [LBCL=<LBCL>],[OPT=<OPT>],[OPR=<OPR>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "CHAN-6-1:,,WORK,ACT:RDIRN=W-E,OPTYPE=DROP,OPWR=10.0,EXPWLEN=1530.33,
   ACTWLEN=1530.33,ILOSS=1.0,VOAMODE=ATTN,VOAATTN=0.5,VOAPWR=0.0,
   VOAREFATTN=3.5,VOAREFPWR=5.0,REFOPWR=10.5,CALOPWR=0,CHPOWER=2.0,
   NAME="NY PORT",SFBER=1E-4,SDBER=1E-5,COMM=GCC,GCCRATE=192K,DWRAP=Y,
   FEC=STD,PAYLOADMAP=ASYNCH,OSFBER=1E-4,OSDBER=1E-5,
   MACADDR=00-0E-AA-BB-CC-FF,SYNCMSG=Y,SENDDUS=Y,SOAK=52,SOAKLEFT=12-25,
   OSPF=Y,LBCL=10.0,OPT=10.0,OPR=10.0:OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19.
<ROLE>	(Optional) Identifies an OCH port role. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) The port status. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<RDIRN>	(Optional) Ring directionality of the optical channel. The parameter type is RDIRN_MODE, which is the optical ring directionality.
• E-W	The direction of the signal is from east to west (clockwise).
• W-E	The direction of the signal is from west to east (counterclockwise).
<OPTICALPORTTYPE>	(Optional) The optical port type. Only applicable to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. The parameter type is OPTICAL_PORT_TYPE, which qualifies the optical port of a card.

• ADD	The signal is added to the port.
• DROP	The signal is dropped from the port.
• IN-COM	COM channels (without OSC) that continue the signal from the previous card.
• IN-DC	Input DCU port.
• IN-EXP	The express channel that continues the signal from the previous card.
• IN-LINE	All the channels that continue the signal from the previous card.
• IN-OSC	OSC channel that continues the signal from the previous card.
• OUT-COM	COM channels (without OSC) that continue the signal to the next card.
• OUT-DC	Output DCU port.
• OUT-EXP	Express channel that continues the signal to the next card.
• OUT-LINE	All the channels that continue the signal to the next card
• OUT-OSC	OSC channel that continue the signal to the next card.
<POWER>	(Optional) The optical power measured at this port. It can be the input or output power according to port type. Only applicable to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. POWER is a string.
<EXPWLEN>	(Optional) Optical wavelength for this port. Applicable only to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. EXPWLEN is a string. The parameter type is OPTICAL_WLEN (optical wavelength). Refer to the ACTWLEN parameter values.
<ACTWLEN>	(Optional) The manufacturing optical wavelength for this port. Applicable only to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. The parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07

• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92

• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30

• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590

• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<ILOSS>	(Optional) Insertion loss expressed in dBm. ILOSS applies to output ports only on the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. ILOSS is a string.
<VOAMODE>	(Optional) The working control mode of the VOA. Applies only to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. The parameter type is VOA_CNTR_MODE, which defines the VOA control mode.
• ATTN	VOA has a fixed attenuation.

• POWER	VOA controls the attenuation to obtain a fixed output power.
<VOAATTN>	(Optional) The transit power attenuation for the VOA expressed in dBm. The range is –24.0 to +2.0 dBm for the MXP_2.5G_10G and TXP_MR_10G cards. VOAATTN is a string.
<VOAPWR>	(Optional) The value of calibrated output power that the VOA is going to set as a result of its attenuation. Applicable only to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. VOAPWR is a float and a string.
<VOAREFATTN>	(Optional) The value of reference attenuation for the VOA. Applicable only to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. VOAREFATTN is a float and a string.
<VOAREFPWR>	(Optional) The value of reference output power that the VOA is going to set as a result of its attenuation. Applicable only to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. VOAREFPWR is a float and a string.
<REFOPWR>	(Optional) The value of the calculated optical power expected for the output line added to the calibration value, which equals the total expected output power. Applicable only to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. REFOPWR is a float and a string.
<CALOPWR>	(Optional) The value of the calibrated optical power expected for the output added to the calculated value which equals the total expected output power. Expressed in dBm. Defaults to 0 dBm. Applicable only to the OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4, MUX-32, DMX-32, AD-1C, AD-2C, AD-4C, AD-1B, and AD-4B cards. CALOPWR is a float and a string.
<CHPOWER>	The value of per-channel optical power expected to the OCH drop port of an AD-4C unit. CHPOWER is a float expressed in dBm. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PORTNAME>	(Optional) Port name. PORTNAME is a string.
<SFBER>	(Optional) Signal failure threshold for the SONET payload. Can only be provisioned on the working port. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Signal degrade threshold for the SONET payload. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.

• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<COMM>	(Optional) The GCC or DCC is enabled or disabled. The GCC can be enabled only if the digital wrapper has been enabled for the card. The default is NONE. For an MXP_2.5G_10G or TXP_MR_10G client port, only the DCC can be provisioned if the termination mode is not transparent and the payload is SONET. On an MXP_2.5G_10G or TXP_MR_10G DWDM port, the DCC can be enabled only if the ITU-T G.709 is not enabled and if the payload is SONET and the termination mode is not transparent. On an MXP_2.5G_10G or TXP_MR_10G DWDM port, the GCC can be enabled if there is no DCC and the ITU-T G.709 flag is enabled. The parameter type is COMM_TYPE, which is the out-of-band communications channel termination type.
• DCC	Section DCC type.
• GCC	Generic communication channel (OTN) type.
• NONE	Disable DCC or GCC if enabled.
<GCCRATE>	(Optional) The data rate of the GCC traffic. The default is 192 kbps. For MXP_2.5G_10G and TXP_MR_10G cards, this applies only to the DWDM port. The 576K option is not supported in this release. The parameter type is GCCRATE, which is the data rate of the GCC traffic.
• 192K	192 kbps
• 576K	576 kbps
<DWRAP>	(Optional) The ITU-T G.709 digital wrapper. It is either on or off. The system default is ON. For MXP_2.5G_10G and TXP_MR_10G cards, this applies only to the DWDM port. To enable ITU-T G.709: • There should be no GCC on the DWDM port. • The payload (where the card is configured) should not be UNFRAMED. To disable ITU-T G.709: • There should be no GCC on the DWDM port. • The FEC should be off. • No overhead circuit should be created on the DWDM port. • None of the client ports on the card should be part of a Y-cable protection group (muxponder only). The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

<FEC>	(Optional) Forward error correction. It can be enabled only if the ITU-T G.709 is turned ON. It is either off or enabled in standard or enhanced mode. The system default is standard FEC enabled. The FEC level PM and thresholds apply if the FEC is turned ON. The parameter type is FEC_MODE, which specifies the type of forward error correction.
• ENH	Enhanced FEC is enabled.
• OFF	FEC is disabled.
• STD	Standard FEC is enabled.
<PAYLOADMAP>	(Optional) The type of payload mapping. It can be enabled only if the ITU-T G.709 is turned ON and FEC is enabled. The parameter type is PAYLOAD_MAPPING, which is the payload mapping mode.
• ASYNCH	Asynchronous mapping mode
• ODU	ODU multiplex structure mode
• SYNCH	Synchronous mapping mode
<OSFBER>	(Optional) The signal failure threshold at the OTN level. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<OSDBER>	(Optional) The signal degrade threshold at the OTN level. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<MACADDR>	(Optional) MAC address for the 10 Gigabit Ethernet payload. MACADDR is a string.
<SYNCMSG>	(Optional) The facility be enabled to provide the synchronization clock. This does not apply to the TXP_MR_10G card. This applies to an MXP_2.5G_10G card only if the payload is SONET/SDH and the card termination mode is as follows: • TRANSPARENT—All client ports are available for all timing selections. All Trunk ports are not available. • LINE—All ports are available for all-timing selections. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

<SENDDUS>	The facility sends out a Do not Use for Sync message. This does not apply to the TXP_MR_10G card. This applies to an MXP_2.5G_10G card only if the payload is SONET/SDH and the card termination mode is as follows: • TRANSPARENT—All Client ports are available for all timing selections. All Trunk ports are not available. • LINE—All ports are available for all-timing selections. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0 to 192 intervals, 48 hours maximum.
<OSPF>	(Optional) Open Shortest Path First. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<LBCL>	(Optional) Displays the current value of the laser current. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<OPT>	(Optional) Displays the current value of the transmitted optical power. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<OPR>	(Optional) Displays the current value of the received optical power. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance

• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.65 RTRV-OCHCC

(Cisco ONS 15454) The Retrieve Optical Channel Client Connection (RTRV-OCHCC) command retrieves the OCH client connection provisioning information.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-OCHCC:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-OCHCC:VA454-22:FAC-2-1-1:116;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[PAYLOAD=<PAYLOAD>],[CTKID=<CTKID>]:<PSTPSTQ>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-2-1-1::PAYLOAD=OC192,CTKID=\"OCHCC\":IS-NR"
;
```

Output Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19.
<PAYLOAD>	Indicates the payload of the connection which is equivalent to the type of the payload configured on the facility port where the connection is originated or terminated. Parameter type is MOD1PAYLOAD.
• 10GFC	10 Gbps Fibre Channel payload
• 10GIGE	10 Gigabit Ethernet payload
• 1GFC	1 Gbps Fibre Channel payload
• 1GFICON	1 Gigabit Ficon payload
• 1GISC3	1 Gbps ISC3 compatible
• 2GFC	2 Gbps Fibre Channel payload
• 2GFICON	2 Gigabit Ficon payload
• 2GISC3	2 Gbps ISC3 compatible
• 4GFC	4 Gbps Fibre channel
• 4GFICON	4 Gbps Fiber connection
• D1VIDEO	D1Video payload
• DV6000	DV6000 payload
• EC1	EC1 payload
• ESCON	ESCON payload
• ETRCLO	ETRCLO payload
• GIGE	1 G Ethernet payload
• HDTV	HDTV payload
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• OC12	OC12 payload
• OC192	OC192 payload
• OC3	OC3 payload
• OC48	OC48 payload
• T3	DS3 payload
<CKTID>	Cross-connect ID. The default is Blank or None. String of ASCII characters. Maximum length is 48. If CKTID is empty or null the CKTID field will not be displayed.
<PSTPSTQ>	Service state. The parameter is PST_PSTQ, which provides the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS-NR	In Service - Normal
• OOS-AU	Out of Service - Autonomous
• OOS-AUMA	Out of Service - Autonomous and Management
• OOS-MA	Out of Service - Management

21.66 RTRV-OCHNC

(Cisco ONS 15454) The Retrieve Optical Channel Network Connection (RTRV-OCHNC) command retrieves the OCH wavelength connection provisioning information.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-OCHNC:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-OCHNC:VA454-22:CHANWL-1-3-TX-1530.33:116;

Input Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<SRC>,<DST>:<WCT>:[CKTID=<CKTID>]::<PSTPSTQ>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "CHANWL-1-3-TX-1530.33,LINEWL-4-1-RX-1530.33:1WAY:CKTID=\"OCHNC-1\":IS-NR"
;
```

Output Parameters

<SRC>	Source access identifier from the "25.8 CHANNEL" section on page 25-19. In 2-way wavelength connection sources both directions need to be indicated.
<DST>	Destination access identifier from the "25.18 LINEWL" section on page 25-38. In 2-way wavelength connection sources both directions need to be indicated.
<WCT>	Wavelength connection type. The parameter type is WCT. The default is 1WAY.
• 1WAY	A unidirectional wavelength connection for one specified ring direction.

• 2WAY	A bidirectional wavelength connection for both the ring directions.
<CKTID>	Cross-connect ID. The default is Blank or None. String of ASCII characters. Maximum length is 48. If CKTID is empty or null the CKTID field will not be displayed.
<PSTPSTQ>	Service state. The parameter is PST_PSTQ, which provides the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS-NR	In Service - Normal
• OOS-AU	Out of Service - Autonomous
• OOS-AUMA	Out of Service - Autonomous and Management
• OOS-MA	Out of Service - Management

21.67 RTRV-OMS

(Cisco ONS 15454) The Retrieve Optical Multiplex Section (RTRV-OMS) command retrieves the attributes (service parameters) and state of an OMS facility.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-OMS:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-OMS:PENNGROVE:BAND-6-1-RX:236;

Input Parameters

<AID>	Access identifier from the "25.4 BAND" section on page 25-16. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::RDIRN=<RDIRN>,OPTYPE=<OPTICALPORTTYPE>,[OPWR=<POWER>],
   EXPBAND=<EXPBAND>,[ACTBAND=<ACTBAND>],[ILOSS=<ILOSS>],
   [VOAMODE=<VOAMODE>],[VOAATTN=<VOAATTN>],[VOAPWR=<VOAPWR>],
   [VOAREFATTN=<VOAREFATTN>],[VOAREFPWR=<VOAREFPWR>],
   [REFOPWR=<REFOPWR>],[CALOPWR=<CALOPWR>],[CHPOWER=<CHPOWER>],
   [NAME=<NAME>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "BAND-6-1-RX::RDIRN=W-E,OPTYPE=ADD,OPWR=10.0,EXPBAND=UNKNOWN,
   ACTBAND=1530.33_1531.12,ILOSS=1.0,VOAMODE=ATTN,VOAATTN=0.5,
   VOAPWR=0.0,VOAREFATTN=3.5,VOAREFPWR=5.0,REFOPWR=10.5,CALOPWR=0.5,
   CHPOWER=2.0,NAME=\"OMS PORT\":OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19.
<RDIRN>	Ring directionality of the optical line. The parameter type is RDIRN_MODE, which is the optical ring directionality.
• E-W	The direction of the signal is from east to west (clockwise).
• W-E	The direction of the signal is from west to east (counterclockwise).
<OPTICALPORTTYPE>	The optical port type. The parameter type is OPTICAL_PORT_TYPE, which qualifies the optical port of a card.
• ADD	The signal is added to the port.
• DROP	The signal is dropped from the port.
• IN-COM	COM channels (without an OSC) that continue the signal from the previous card.
• IN-DC	Input dispersion compensation unit (DCU) port.
• IN-EXP	Express channel that continues the signal from the previous card.
• IN-LINE	All the channels that continue the signal from the previous card.
• IN-OSC	OSC channel that continues the signal from the previous card.
• OUT-COM	COM channels (without an OSC) that continue the signal to the next card.
• OUT-DC	Output DCU port.
• OUT-EXP	Express channel that continues the signal to the next card.
• OUT-LINE	All the channels that continue the signal to the next card.
• OUT-OSC	OSC channel that continue the signal to the next card.
<POWER>	(Optional) The optical power measured at this port. It can be the input or output power according to port type. POWER is a string.
<EXPBAND>	The expected value of the band for this port. The parameter type is OPTICAL_BAND (optical band).
• 1530.33 to 1532.68	Band 1
• 1534.25 to 1536.61	Band 2
• 1538.19 to 1540.56	Band 3
• 1542.14 to 1544.53	Band 4
• 1546.12 to 1548.51	Band 5
• 1550.12 to 1552.52	Band 6
• 1554.13 to 1556.55	Band 7
• 1558.17 to 1560.61	Band 8
• USE-DEFAULT	This band is not yet configured/retrieved from unit.

<ACTBAND>	(Optional) Identifies the manufacturing optical band (group of four contiguous wavelengths) for this port. The parameter type is OPTICAL_BAND (optical band).
• 1530.33 to 1532.68	Band 1
• 1534.25 to 1536.61	Band 2
• 1538.19 to 1540.56	Band 3
• 1542.14 to 1544.53	Band 4
• 1546.12 to 1548.51	Band 5
• 1550.12 to 1552.52	Band 6
• 1554.13 to 1556.55	Band 7
• 1558.17 to 1560.61	Band 8
• USE-DEFAULT	This band is not yet configured/retrieved from unit.
<ILOSS>	(Optional) Insertion loss expressed in dBm. ILOSS applies to output ports only.
<VOAMODE>	(Optional) The working control mode of the VOA. The parameter type is VOA_CNTR_MODE, which defines the VOA control mode.
• ATTN	VOA has a fixed attenuation.
• POWER	VOA controls the attenuation to obtain a fixed output power.
<VOAATTN>	(Optional) The value of calibrated attenuation for the VOA. VOAATTN is a float and a string.
<VOAPWR>	(Optional) The value of calibrated output power that the VOA is going to set as a result of its attenuation. VOAPWR is a float and a string.
<VOAREFATTN>	(Optional) The value of reference attenuation for the VOA. VOAREFATTN is a float and a string.
<VOAREFPWR>	(Optional) The value of reference output power that the VOA is going to set as a result of its attenuation. VOAREFPWR is a float and a string.
<REFOPWR>	(Optional) The value of the calculated optical power expected for the output line added to the calibration value which equals the total expected output power. REFOPWR is a float and a string.
<CALOPWR>	(Optional) The value of the calibrated optical power expected for the output added to the calculated value, which equals the total expected output power. Expressed in dBm. Defaults to 0 dBm. CALOPWR is a float and a string.
<CHPOWER>	(Optional) The per-channel optical power. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<NAME>	(Optional) Name. NAME is a string.
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management

• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.68 RTRV-OPM

(Cisco ONS 15454) The Retrieve Optical Monitoring Parameter (RTRV-OPM) command retrieves the optical power monitoring parameters present at the OCH layer in a reconfigurable optical add/drop multiplexing (ROADM) node.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-OPM:[<TID>]:[<AID>]:<CTAG>[::::];

Input Example

RTRV-OPM:VA454-22:OPM-5-1530.33:116;

Input Parameters

<AID>	Access identifier from the "25.20 OPM" section on page 25-40. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[POWEROUT=<POWEROUT>],[POWERADD=<POWERADD>],
   [POWERPT=<POWERPT>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "OPM-5-1530.33::POWEROUT=9.0,POWERADD=10.0,POWERPT=11.0:"
;
```

Output Parameters

<AID>	Access identifier from the "25.20 OPM" section on page 25-40.
<POWEROUT>	(Optional) The value of the output power associated to the add or pass-through channel port of a 32WSS card. POWEROUT is a float.
<POWERADD>	(Optional) The value of the input power associated to the add channel port of a 32WSS card. POWERADD is mutually exclusive with the POWERPT parameter. POWERADD is a float.
<POWERRPT>	(Optional) The value of the input power associated to the pass-through channel port of a 32WSS card. POWERPT is mutually exclusive with the POWERADD parameter. POWERPT is a float.

21.69 RTRV-OSC

(Cisco ONS 15454) The Retrieve Optical Service Channel (RTRV-OSC) command retrieves all the OSC information of the NE.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-OSC:[<TID>]:<AID>:<CTAG

Input Example

RTRV-OSC:PENNGROVE:OSC-1:114;

Input Parameters

AID	Access identifier from the "25.21 OSC" section on page 25-40. Identifies the OSC group of the NE. Only ALL, null, or OSC-# is allowed in the AID. A null value is equivalent to ALL. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[RINGID=<RINGID>],[NODEID=<NODEID>],[EAST=<EAST>],[WEST=<WEST>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "OSC-1::RINGID=10,NODEID=1,EAST=FAC-8-1,WEST=FAC-10-1"
;
```

Output Parameters

<AID>	Access identifier from the "25.21 OSC" section on page 25-40. Identifies the OSC group of the NE.
<RINGID>	(Optional) OSC ring ID of the NE. It is a string of up to six characters, valid characters are [A to Z, 0 to 0]. The default value is number in the AID OSC-#. RINGID is an integer.
<NODEID>	(Optional) OSC node ID of the NE. It ranges from 0 to 31. NODEID is an integer.
<EAST>	(Optional) The east OC3 facility from the "25.15 FACILITY" section on page 25-33. EAST_OC3 is the AID facility. Only one OC-3 for the east direction is supported in this release.
<WEST>	(Optional) The west OC3 facility from the "25.15 FACILITY" section on page 25-33. EAST_OC3 is the AID facility. Only one OC-3 for the west direction is supported in this release.

21.70 RTRV-OTS

(Cisco ONS 15454) The Retrieve Optical Transport System (RTRV-OTS) command retrieves the attributes (service parameters) and state of an OTS facility.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-OTS:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-OTS:PENNGROVE:LINE-6-1-RX:236;

Input Parameters

<AID>	Access identifier from the "25.17 LINE" section on page 25-37. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:RDIRN=<RDIRN>,OPTYPE=<OPTICALPORTTYPE>,[OPWR=<POWER>],
   [ILOSS=<ILOSS>],[VOAMODE=<VOAMODE>],[VOAATTN=<VOAATTN>],
   [VOAPWR=<VOAPWR>],[VOAREFATTN=<VOAREFATTN>],
   [VOAREFPWR=<VOAREFPWR>],[OSRI=<OSRI>],[AMPLMODE=<AMPLMODE>],
   [CHPOWER=<CHPOWER>],[GAIN=<GAIN>],[EXPGAIN=<EXPGAIN>],
   [REFOPWR=<REFOPWR>],[OFFSET=<OFFSET>],[REFTILT=<REFTILT>],
   [CALTILT=<CALTILT>],[ASEOPWR=<ASEOPWR>],[DCULOSS=<DCULOSS>],
   [AWGST=<AWGST>],[HEATST=<HEATST>],[NAME=<NAME>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "LINE-6-1-RX:RDIRN=W-E,OPTYPE=IN,OPWR=10.0,ILOSS=1.0,VOAMODE=ATTN,
   VOAATTN=0.5,VOAPWR=0.0,VOAREFATTN=3.5,VOAREFPWR=5.0,OSRI=Y,
   AMPLMODE=GAIN,CHPOWER=-10.0,GAIN=3.0,EXPGAIN=3.0,REFOPWR=10.0,
   OFFSET=0.0,REFTILT=3.0,CALTILT=0.0,ASEOPWR=5.0,DCULOSS=1.2,
   AWGST=WARM-UP,HEATST=ON,NAME=\"OTS PORT\":OOS-AU,AINS"
;
```

Output Parameters

AID	Access identifier from the "25.17 LINE" section on page 25-37.
RDIRN	Ring directionality of the optical line. The parameter type is RDIRN_MODE, which is the optical ring directionality.
• E-W	The direction of the signal is from east to west (clockwise).
• W-E	The direction of the signal is from west to east (counterclockwise).
OPTICALPORTTYPE	The optical port type. The parameter type is OPTICAL_PORT_TYPE, which qualifies the optical port of a card.
• ADD	The signal is added to the port.
• DROP	The signal is dropped from the port.
• IN-COM	COM channels (without OSC) that continue the signal from the previous card.
• IN-DC	Input DCU port.
• IN-EXP	Express channel that continues the signal from the previous card.
• IN-LINE	All the channels that continue the signal from the previous card.
• IN-OSC	OSC channel that continues the signal from the previous card.
• OUT-COM	COM channels (without OSC) that continue the signal to the next card.
• OUT-DC	Output DCU port.
• OUT-EXP	Express channel that continues the signal to the next card.
• OUT-LINE	All the channels that continue the signal to the next card.
• OUT-OSC	OSC channel that continue the signal to the next card.
<POWER>	(Optional) The optical power measured at this port. It can be the input or output power according to port type. POWER is a float.
<ILOSS>	(Optional) Insertion loss.

<VOAMODE>	(Optional) The working control mode of the VOA. The parameter type is VOA_CNTR_MODE, which defines the VOA control mode.
• ATTN	VOA has a fixed attenuation.
• POWER	VOA controls the attenuation to obtain a fixed output power.
<VOAATTN>	(Optional) The value of calibrated attenuation for the VOA. VOAATTN is a float.
<VOAPWR>	(Optional) The value of calibrated output power that the VOA is going to set as a result of its attenuation. VOAPWR is a float.
<VOAREFATTN>	(Optional) The value of reference attenuation for the VOA. VOAREFATTN is a float.
<VOAREFPWR>	(Optional) The value of reference output power that the VOA is going to set as a result of its attenuation. VOAREFPWR is a float.
<OSRI>	(Optional) OSRI enabled or disabled. Present only on a port where the safety is supported. Defaults to off. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<AMPLMODE<	(Optional) The optical amplification control mode. The parameter type is AMPL_MODE, which defines the amplifier control mode.
• GAIN	The amplifier always maintains a fixed gain.
• POWER	The amplifier maintains the output power to a fixed value.
<CHPOWER>	(Optional) The per channel optical power. Applicable only to amplified OTS ports.
<GAIN>	(Optional) The value of the gain of the amplifier. Defaults to 21 dB for preamplifier and 20 dB for booster amplifier.
<EXPGAIN>	(Optional) The expected gain value to be reached from an amplifier when the node is in a DWDM access network. EXPGAIN is a float.
<REFOPWR>	(Optional) The value of the calculated optical power expected for the output line added to the calibration value, which equals the total expected output power. REFOPWR is a float.
<OFFSET>	(Optional) The value of the calibrated optical power expected for the output line, which is added to the calculated value to have the total expected output power. OFFSET is a float.
<REFTILT>	(Optional) The calculated tilt value to be added to the user provided calibration value. REFTILT is a float.
<CALTILT>	(Optional) The amplifier calibration tilt offset to be added to the calculated reference value. CALTILT is a float.
<ASEOPWR>	(Optional) The value of the calibrated optical power expected for the output line, which is provided by the user, added to the calculated value to have the total expected output power. ASEOPWR is a float.
<DCULOSS>	(Optional) The value of insertion loss associated to DCU in between the two stages of a preamplifier unit. DCULOSS is a float.
<AWGST>	The status assumed by AWG. The parameter value is AWG_STATUS, which is the AWG status list.
• ON	The AWG is on.

• WARM-UP	The AWG is warming up.
<HEATST>	(Optional) The status assumed by the heater. The parameter type is HEATER_STATUS, which is the heater status list.
• OFF	The heater is off.
• ON	The heater is on.
<NAME>	(Optional) Name of the port. NAME is a string.
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.71 RTRV-PM-<MOD2>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Performance for 10GFC, 10GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, CLNT, D1VIDEO, DS1, DV6000, E1, E3, E4, EC1, ESCON, ETRCLO, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, OC12, OC192, OC3, OC48, OCH, OMS, OTS, POS, STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, T1, T3, VC12, VC3, VT1, or VT2 (RTRV-PM-<MOD2>) command retrieves the values of PM parameters for a specified card type.

Usage Guidelines

- See Table 27-1 on page 27-1 for supported modifiers by platform.
- MONTYPE, MONLEV, MONDAT, and MONTM are supported in this release.
- MONLEV is in the format of LEV-DIRN.
- The format of MONDAT is MM-DD, where MM (month of the year) ranges from 1 to 12 and DD (day of the month) ranges from 1 to 31.
- The format for MONTM is HH-MM, where HH (hour of the day) ranges from 0 to 23 and MM (minute of the hour) ranges from 0 to 59.
- If there are no errors to report, the response will be COMPLD (completed).
- If the TMPER is 1-DAY, MONTM is not applicable (null), and is treated as null if MONTM is not null.
- A null value for MONLEV defaults to 1-UP.
- A null value for MONDAT defaults to the current date (MM-DD).
- A null value for MONTM defaults to the current time (HH-MM).
- Unless otherwise stated, DS-1 cards are the only cards that support both the RCV and TRMT directions. All other cards only support the RCV direction.
- After BLSR switching, the working path is switched out, the traffic goes through the protection path, and the IPPM can be retrieved from the protection STS path.
- If there is a STS PCA on the protection path, during the BLSR switching, the PCA path is preemptive; sending this command on the protection path after a BLSR switch, the command returns the PMs from the protection path, not from the PCA path.
- Some MOD2 entities; for example, OCH, CLNT, and Optical (OCn), support negative MONTYPE values. By default, this command defaults to 0–UP (return MONTYPEs where the MONVAL is 0 or higher). To retrieve the negative values, you must issue 0–DN in the MONLEV field. The rules are as follows:
  - Client port only–Laser and SONET PMs are applicable and will appear. If the card payload is in SONET mode, then SONET PMs will appear, provided the MONLEV criteria is met.
  - Trunk port Laser PMs are always available. Laser PMs are only for near end. If ITU-T G.709 is enabled, then the OTN PMs will appear. If ITU-T G.709 and FEC are enabled, then the FEC PMs will appear. If the card payload is in SONET mode, then SONET PMs will appear. All PM MONVALUEs should pass the MONLEV filter criteria.
- For DWDM cards, the MONLEV filter criteria will not support a floating point. It will be returned and interpreted as an integer.

- If the DS-1 mode of the DS3XM-12 card is FDL, the DS-1 path can retrieve FDL/T.403 FEND PM counts up to 32 15-minute intervals in the RTRV-PM-DS1 command.
- RTRV-PM-<MOD2> can also be used to retrieve the RMON-managed PM data.

Category

Performance

Security

Retrieve

Input Format

RTRV-PM-<MOD2>:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<MONLEV>],[<LOCN>],[<DIRECTION>],[<TMPER>],[<DATE>],[<TIME>];

Input Example

RTRV-PM-T1:TID:FAC-2-1:123::CVL,10-UP,NEND,RCV,15-MIN,04-11,12-45;

Input Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. All of the STS, VT1, Facility, and DS1 AIDs are supported. Must not be null.
<MONTYPE>	Monitored type. A null value defaults to all montypes applicable to the modifier. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage
• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CSSP	Controlled Slip Seconds—Path (DSXM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)

• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ESV	Errored Seconds—VT Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High Order Path Negative Pointer Justification Count
• HP-NPJC-PGEN	High Order Path, Negative Pointer Justification Count

• HP-OI	Outage Intensity
• HP-PJCDIFF	High Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High Order Path Pointer Justification Count
• HP-PJCS-PGEN	High Order Path Pointer Justification Count Seconds
• HP-PPJC-PDET	High Order Path Positive Pointer Justification Count
• HP-PPJC-PGEN	High Order Path, Positive Pointer Justification Count
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA
• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA
• LBCN	Normalized Laser Bias Current for OC3-8
• LBCN-HWT	Laser Bias Current
• LBCN-LWT	Laser Bias Current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B

• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	PPJC-PDET:Negative Pointer Justification
• NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification
• OPR-AVG	Average Receive Power in one tenth of a microW
• OPR-MAX	Maximum Receive Power in one tenth of a microW
• OPR-MIN	Minimum Receive Power in one tenth of a microW
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microW
• OPT-MAX	Maximum Transmit Power in one tenth of a microW
• OPT-MIN	Minimum Transmit Power in one tenth of a microW
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	PPJC-PDET:Positive Pointer Justification
• PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path

• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VT Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VT Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<MONLEV>	The discriminating level of the requested monitored parameter in the format of LEVEL-DIRN, where LEVEL is the measured value of the monitored parameter (MONVAL) and DIRN is the type of direction. A null value defaults to 1-UP. MONLEV is a string.
<LOCN>	Location associated with a particular command in reference to the entity identified by the AID. A null value defaults to NEND. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility
• NEND	Action occurs on the near end of the facility
<DIRECTION>	Type of direction. Must not be null. The parameter type is DIRECTION (transmit and receive directions).
• BTH	Both transmit and receive directions.
• RCV	Receive direction only.
• TRMT	Transmit direction only.

<TMPER>	Accumulation time period for performance counters. If TMPER is 1-DAY, MONTM is not applicable (null), and is treated as null. A null value defaults to 15-MIN. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length; every 24-hours. For SONET PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<DATE>	The beginning date of the PM or storage register period specified in TMPER. The format of DATE is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31. A null value defaults to current date.
<TIME>	The beginning time of day of the PM or storage register period specified in TMPER. The format of TIME is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59. A null value defaults to current time.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:<MONTYPE>,<MONVAL>,[<VLDTY>],[<LOCN>],
   [<DIRECTION>],[<TMPER>],[<MONDAT>],[<MONTM>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-2-1,DS1-14:CVL,21,COMPL,NEND,RCV,15-MIN,04-11,12-45"
;
```

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1.
<AIDTYPE>	(Optional) Type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm

• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm
• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm

• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<MONTYPE>	Monitored type. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage
• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CSSP	Controlled Slip Seconds—Path (DSXM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section

• ESV	Errored Seconds—VT Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High Order Path Negative Pointer Justification Count
• HP-NPJC-PGEN	High Order Path, Negative Pointer Justification Count
• HP-OI	Outage Intensity
• HP-PJCDIFF	High Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High Order Path Pointer Justification Count
• HP-PJCS-PGEN	High Order Path Pointer Justification Count Seconds
• HP-PPJC-PDET	High Order Path Positive Pointer Justification Count
• HP-PPJC-PGEN	High Order Path, Positive Pointer Justification Count
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets

• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA
• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA
• LBCN	Normalized Laser Bias Current for OC3-8
• LBCN-HWT	Laser Bias Current
• LBCN-LWT	Laser Bias Current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration

• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	PPJC-PDET:Negative Pointer Justification
• NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification
• OPR-AVG	Average Receive Power in one tenth of a microW
• OPR-MAX	Maximum Receive Power in one tenth of a microW
• OPR-MIN	Minimum Receive Power in one tenth of a microW
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microW
• OPT-MAX	Maximum Transmit Power in one tenth of a microW
• OPT-MIN	Minimum Transmit Power in one tenth of a microW
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	PPJC-PDET:Positive Pointer Justification
• PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage

• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VT Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VT Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<MONVAL>	The value to which the register identified by MONTYPE is to be initialized to or the measured value of a monitored parameter. The value is in the form of numeric counts or rates. MOVAL is a string.
<VLDTY>	(Optional) Indicates whether the information for the specified time period was accumulated over the entire time period or some portion thereof. Validity indicator for the reported PM data. The parameter type is VALIDITY, which is the response validity.
• COMPL	Complete response
• PRTL	Partial response
<LOCN>	(Optional) Location associated with a particular command. The parameter type is LOCATION, which is the location where the action is to take place
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRECTION>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only
<TMPER>	(Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length; every 24-hours. For SONET PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.

• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<MONDAT>	(Optional) The beginning date of the PM or storage register period specified in TMPER. The format of MONDAT is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31. MONDAT is a string.
<MONTM>	(Optional) The beginning time of day of the PM or storage register period specified in TMPER. The format of MONTM is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59. MONTM is a string.

21.72 RTRV-PMMODE-<STS_PATH>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Performance Mode of PM Data Collection for STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, or STS9C (RTRV-PMMODE-<STS_PATH>) command retrieves the type of PM mode that has been previously set in the NE. This command can be used to identify whether the PM parameters are Section, Line or Path type, and to identify whether or not the PMs are being collected by the NE.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Note

- The PM mode and state of an entity is set by using the SET-PMMODE command.
- This command returns the categories that are enabled only.
- This near-end monitoring of the intermediate-path performance monitoring (IPPM) only supports OC3, OC12, OC48, OC192, and EC1 on the STS Path.
- The far-end IPPM data collection is supported by the MRC-12 card only.
- This release of software will support only the Path (P) mode type PM parameters with this command, that is, this command will not be applicable for Line (L) and Section (S) mode types. Note that the PM monitoring for Line (L) and Section (S) are supported by the ONS 15454, and the storing PM data is always performed.
- This command only returns the categories that are enabled (pmstate is ON), and does not return the categories that are disabled (pmstate is OFF).

Category

Performance

Security

Retrieve

Input Format

RTRV-PMMODE-<STS_PATH>:[<TID>]:<SRC>:<CTAG>::<LOCN>;

Input Example

RTRV-PMMODE-STS1:CISCO:STS-4-1-2:123::NEND;

Input Parameters

<SRC>	Source access identifier from the "25.10 CrossConnectId" section on page 25-20. Must not be null.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. Must not be null. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<CROSSCONNECTID>:[<LOCN>],<MODETYPE>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "STS-4-1-2:NEND,P"
;
```

Output Parameters

<CROSSCONNECTID>	Access identifier from the "25.10 CrossConnectId" section on page 25-20.
<LOCN>	(Optional) Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<MODETYPE>	The type of PM parameters that the entity or the subentity is to store as a result of an attribute change. The parameter type is PM_MODE, which is the type of PM parameters.
• P	Transport Path PM parameters.

21.73 RTRV-PMMODE-<VT_PATH>

(Cisco ONS 15310-MA) The Retrieve Performance Mode of PM Data Collection for VT1 and VT2 (RTRV-PMMODE-<VT_PATH>) command retrieves the type of PM mode that has been previously set in the NE. This command can be used to identify whether the PM parameters are Section, Line or Path type, and to identify whether or not the PMs are being collected by the NE.

Usage Guidelines

Note

- The PM mode and state of an entity is set by using the SET-PMMODE command.
- This command returns the categories that are enabled (pmstate is ON) only. It does not return the categories that are disabled (pmstate is OFF).
- This release of software will support only the Path (P) mode type PM parameters with this command, that is, this command will not be applicable for Line (L) and Section (S) mode types.

Category

Performance

Security

Retrieve

Input Format

RTRV-PMMODE-<VT_PATH>:[<TID>]:<SRC>:<CTAG>::<LOCN>;

Input Example

RTRV-PMMODE-VT1:CISCO:VT-1-1-2-2:1::NEND;

Input Parameters

<SRC>	Source access identifier from the "25.10 CrossConnectId" section on page 25-20. Must not be null.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. Must not be null. The parameter type is LOCATION, which is the location where the action is to take place. Must not be null.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<CROSSCONNECTID>:<LOCN>,<MODETYPE>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "VT1-1-1-2-2:NEND,P"
;
```

Output Parameters

<CROSSCONNECTID>	Access identifier from the "25.11 CrossConnectId1" section on page 25-24.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<MODETYPE>	The type of PM parameters that the entity or the subentity is to store as a result of an attribute change. The parameter type is PM_MODE, which is the type of PM parameters.
• P	Transport Path PM parameters.

21.74 RTRV-PMSCHED-<MOD2>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Performance Monitoring Schedule for 10GFC, 10GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, CLNT, D1VIDEO, DS1, DV6000, E1, E3, E4, EC1, ESCON, ETRCLO, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, OC12, OC192, OC3, OC48, OCH, OMS, OTS, POS, STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, T1, T3, VC12, VC3, VT1, or VT2 (RTRV-PMSCHED-<MOD2>) command retrieves the PM reporting schedule that was set for the NE by the SCHED-PMREPT command.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Category

Performance

Security

Retrieve

Input Format

RTRV-PMSCHED-<MOD2>:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-PMSCHED-OC3:CISCO-NODE:FAC-3-1:123;

Input Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:<REPTINVL>,<REPTDAT>,<REPTTM>,[<NUMINVL>],,
   [<MONLEV>],<LOCN>,,[<TMPER>],[<TMOFST>],[<INHMODE>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-3-1,OC3:30-MIN,5-25,14-46,100,,1-UP,NEND,,15-MIN,0-0-15,ALW"
;
```

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1.
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2, which is the line/path modifier.
• 10GFC	10 Gigabit Fibre Channel
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1 Gigabit Fibre Channel
• 1GFICON	1 Gigabit FICON
• 2GFC	2 Gigabit Fibre Channel
• 2GFICON	2 Gigabit FICON
• D1VIDEO	D1 Video
• DS1	DS1 line of a DS3XM card
• DS3I	DS3I line
• DV6000	DV6000
• EC1	EC1 facility
• ESCON	ESCON
• ETRCLO	ETR_CLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over packet over SONET. Virtual Ports partitioned using GFP's multiplexing capability.
• GIGE	GIG Ethernet
• HDTV	HDTV
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• OC3	OC3 facility

• OC12	OC12 facility
• OC48	OC48 facility
• OC192	OC192 facility
• OCH	Optical channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port
• STS1	STS1 path
• STS3C	STS3c path
• STS6C	STS6c path
• STS9C	STS9c path
• STS18C	STS18c path
• STS12C	STS12c path
• STS24C	STS24c path
• STS36C	STS36c path
• STS48C	STS48c path
• STS192C	STS192c path
• T1	T1/DS1 facility/line
• T3	T1/DS1 facility/line
• VT1	VT1 path
• VT2	VT2 path
<REPTINVL>	Reporting interval. How often a report is to be generated and sent to the appropriate NE. REPTINVL is a string.
<REPTDAT>	Report date. Date for the next report. REPTDAT is a string.
<REPTTM>	Report time. The time of day for the next PM report. REPTTM is a string.
<NUMINVL>	(Optional) The remaining number of intervals over which the PM will be reported. NUMINVL is an integer.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode will be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<TMPER>	(Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length; every 24 hours. For SONET PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.

• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<TMOFST>	(Optional) Time offset between reporting/diagnostics/exercises; from the end of the last complete accumulation time period to the beginning of the accumulation time period specified by TMPER. TMOFST is a string.
<INHMODE>	(Optional) Indicates whether a function is inhibited by an INH command. Indicates whether the reporting of PM data is inhibited (by the INH-PMREPT-ALL command) or is allowed (by the ALW-PMREPT-ALL command). The parameter type is INH_MODE, which indicates whether the function is inhibited.
• ALW	Function is allowed.
• INH	Function is inhibited.

21.75 RTRV-PMSCHED-ALL

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Performance Schedule All (RTRV-PMSCHED-ALL) command retrieves all the PM reporting schedules that were set for the NE by the SCHED-PMREPT command.

Usage Guidelines None

Category Performance

Security Retrieve

Input Format RTRV-PMSCHED-ALL:[<TID>]::<CTAG>;

Input Example RTRV-PMSCHED-ALL:CISCO-NODE::123;

Input Parameters

None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:<REPTINVL>,<REPTDAT>,<REPTTM>,[<NUMINVL>],,
   [<MONLEV>],<LOCN>,,[<TMPER>],<TMOFST>,[<INHMODE>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-3-1,OC3:30-MIN,5-25,14-46,100,,1-UP,NEND,,15-MIN,0-0-15,ALW"
;
```

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1.
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2, which is the line/path modifier.
• 10GFC	10 Gigabit Fibre Channel
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1 Gigabit Fibre Channel
• 1GFICON	1 Gigabit FICON
• 2GFC	2 Gigabit Fibre Channel
• 2GFICON	2 Gigabit FICON
• D1VIDEO	D1 Video
• DS1	DS-1 line of a DS3XM card
• DS3I	DS3I line
• DV6000	DV6000
• EC1	EC1 facility
• ESCON	ESCON
• ETRCLO	ETR_CLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over packet over SONET. Virtual Ports partitioned using GFP's multiplexing capability.
• GIGE	GIG Ethernet
• HDTV	HDTV
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• OC3	OC-3 facility

• OC12	OC-12 facility
• OC48	OC-48 facility
• OC192	OC-192 facility
• OCH	Optical channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port
• STS1	STS1 path
• STS3C	STS3c path
• STS6C	STS6c path
• STS9C	STS9c path
• STS18C	STS18c path
• STS12C	STS12c path
• STS24C	STS24c path
• STS36C	STS36c path
• STS48C	STS48c path
• STS192C	STS192c path
• T1	T1/DS1 facility/line
• T3	T1/DS1 facility/line
• VT1	VT1 path
• VT2	VT2 path
<REPTINVL>	Reporting interval. How often a report is to be generated and sent to the appropriate NE. REPTINVL is a string.
<REPTDAT>	Report date. Date for the next report. REPTDAT is a string.
<REPTTM>	Report time. The time of day for the next PM report. REPTTM is a string.
<NUMINVL>	(Optional) The remaining number of intervals over which PM is to be reported. NUMINVL is an integer.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<TMPER>	(Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length; every 24 hours. For SONET PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.

• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<TMOFST>	(Optional) Time offset between reporting/diagnostics/exercises; from the end of the last complete accumulation time period to the beginning of the accumulation time period specified by TMPER. TMOFST is a string.
<INHMODE>	(Optional) Indicates whether a function is inhibited by an INH command. Indicates whether the reporting of PM data is inhibited (by the INH-PMREPT-ALL command) or is allowed (by the ALW-PMREPT-ALL command). The parameter type is INH_MODE, which indicates whether the function is inhibited.
• ALW	Function is allowed.
• INH	Function is inhibited.

21.76 RTRV-POS

(Cisco ONS 15454, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Packet Over SONET (RTRV-POS) command retrieves the back-end port information for the Ethernet card when the back-end port is working in POS mode.

Usage Guidelines

- This command is supported for the ML-Series cards, but for the ONS 15310-CL ML-100T-8 card, ADMINSTATE, ENCAP, SOAK, and SOAKLEFT information will not appear.
- This command is supported for the ASAP card, but ADMINSTATE information will not appear.
- Because the back-end port is virtual, the Virtual Facility (VFAC) AID should be used when issuing the command.

Category Ports

Security Retrieve

Input Format RTRV-POS:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-POS:TID:VFAC-1-1:CTAG;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>::[ADMINSTATE=<ADMINSTATE>],[LINKSTATE=<LINKSTATE>],
[MTU=<MTU>],[ENCAP=<ENCAP>],[NAME=<NAME>],[SOAK=<SOAK>],
[SOAKLEFT=<SOAKLEFT>]:<PST_PSTQ>,[<SST>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"VFAC-1-1::ADMINSTATE=DOWN,LINKSTATE=DOWN,MTU=1500,ENCAP=HDLC,
NAME=\"POSPORT\",SOAK=32,SOAKLEFT=\12-25\":OOS-AU,AINS"
;

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<ADMINSTATE>	(Optional) Administration type. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<LINKSTATE>	(Optional) Link protocol. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<MTU>	(Optional) Maximum transmission unit. MTU is an integer.
<ENCAP>	Encapsulation. The parameter type is ENCAP, which is the frame encapsulation type.
• GFP_F	GFP frame mode
• GFP_T	GFP transparent mode
• HDLC	HDLC frame mode
• HDLC_LEX	HDLC LAN extension frame mode
• HDLC_X86	HDLC X.86 frame mode
<NAME>	(Optional) Name. NAME is a string.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.

<SOAKLEFT<	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are as follows: • When the port is in OOS, OOS_MT, or IS state, the parameter will not appear. • When the port is in OOS_AINS state but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and a primary state qualifier (PSTQ).
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.77 RTRV-PROTNSW-<MOD2DWDMPAYLOAD>

(Cisco ONS 15454) The Retrieve Protection Switch for 10GFC, 10GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, D1VIDEO, DV6000, ETRCLO, GIGE, HDTV, ISC1, ISC3, or PASSTHRU (RTRV-PROTNSW-<MOD2DWDMPAYLOAD>) command retrieves the protection switch status of client facilities.

Usage Guidelines None

Category DWDM

Security

Retrieve

Input Format

RTRV-PROTNSW-<MOD2DWDMPAYLOAD>:[<TID>]:<SRC>:<CTAG>[::::];

Input Example

RTRV-PROTNSW-HDTV:CISCO:FAC-1-1-1:100;

Input Parameters

<SRC>	Source access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AIDUNIONID>:<SC>,[<SWITCHTYPE>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-1-1-1:FRCD,MANWKSWBK"
;
```

Output Parameters

<AIDUNIONID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<SC>	Switch command to be initiated on the paths. The parameter type is SW, which is the type of switch to be initiated.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	(Optional) Switch type. The parameter type is SWITCH_TYPE, which is the BLSR switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-OCn commands. They are not applicable for the OPR-PROTNSW-OCn commands. RING and SPAN are the only allowed values for BLSR protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.

• FRCDWKSWPR	Working unit is forced to switch to the protection unit.
• LOCKOUTOFPR	Lockout of protection.
• LOCKOUTOFWK	Lockout of working.
• MANWKSWBK	Manual switch of working unit back to working.
• MANWKSWPR	Manual switch of working unit back to the protection unit.
• RING	BLSR ring switch type.
• SPAN	BLSR span switch type.

21.78 RTRV-PROTNSW-<OCN_TYPE>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Protection Switch for OC3, OC12, OC48, or OC192 (RTRV-PROTNSW-<OSC_TYPE>) command retrieves the switching state of a SONET line specified in the AID.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Category

Protection

Security

Retrieve

Input Format

RTRV-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-PROTNSW-OC48:CISCO:FAC-5-1:123;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:<SC>,[<SWITCHTYPE>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-5-1:MAN,MANWKSWBK"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<SC>	Switch command to be initiated on the paths. The parameter type is SW, which is the type of switch to be initiated.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	(Optional) Switch type. The parameter type is SWITCH_TYPE, which is the BLSR switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-OCn commands. They are not applicable for the OPR-PROTNSW-OCn commands. RING and SPAN are the only allowed values for BLSR protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.
• FRCDWKSWPR	Working unit is forced to switch to the protection unit.
• LOCKOUTOFPR	Lockout of protection.
• LOCKOUTOFWK	Lockout of working.
• MANWKSWBK	Manual switch of working unit back to working.
• MANWKSWPR	Manual switch of working unit back to the protection unit.
• RING	BLSR ring switch type.
• SPAN	BLSR span switch type.

21.79 RTRV-PROTNSW-<PATH>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Protection Switch for STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, VT1, or VT2 (RTRV-PROTNSW-<PATH>) command retrieves the switching state of a SONET path protection STS path specified in the AID. Because Telcordia GR-1400 does not allow LOCKOUT_OF_WORKING on the path protection WORKING path/AID, the "AID:LOCKOUT,LOCKOUTOFWK" does not appear in this protection switch retrieval result.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Category

Protection

Security

Retrieve

Input Format

RTRV-PROTNSW-<PATH>:[<TID>]:<SRC>:<CTAG>[::::];

Input Example

RTRV-PROTNSW-STS1:CISCO:STS-5-1-1:123;

Input Parameters

<SRC>	Source access identifier from the "25.10 CrossConnectId" section on page 25-20. Must not be null.

Output Format

SID DATE TIME
M CTAG COMPLD
"<CROSSCONNECTID>:<SC>,[<SWITCHTYPE>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"STS-5-1-1:MAN,MANWKSWBK"
;

Output Parameters

<CROSSCONNECTID>	Access identifier from the "25.10 CrossConnectId" section on page 25-20.
<SC>	Switch command that is to be initiated on the paths. The parameter type is SW, which is the type of switch to be initiated.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	(Optional) Switch type. The parameter type is SWITCH_TYPE, which is the BLSR switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-OCn commands. They are not applicable for the OPR-PROTNSW-OCn commands. RING and SPAN are the only allowed values for BLSR protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.

• FRCDWKSWPR	Working unit is forced to switch to the protection unit.
• LOCKOUTOFPR	Lockout of protection.
• LOCKOUTOFWK	Lockout of working.
• MANWKSWBK	Manual switch of working unit back to working.
• MANWKSWPR	Manual switch of working unit back to the protection unit.
• RING	BLSR ring switch type.
• SPAN	BLSR span switch type.

21.80 RTRV-PROTNSW-OCH

(Cisco ONS 15454) The Retrieve Protection Switch Optical Channel (RTRV-PROTNSW-OCH) command retrieves the protection switch status of a TXPP_MR_2.5G card.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-PROTNSW-OCH:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-PROTNSW-OCH:VA454-22:CHAN-2-2:100;

Input Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>:<SW>,<SWTYPE>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "CHAN-2-2:FRCD,FRCDWKSWBK"
;
```

Output Parameters

<AID>	Access identifier from the "25.8 CHANNEL" section on page 25-19.
<SW>	Indicates the switch operation. The parameter type is SW, which is the type of switch to be initiated.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	Indicates the switch type operation. The parameter type is SWITCH_TYPE, which is the BLSR switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-OCn commands. They are not applicable for the OPR-PROTNSW-OCn commands. RING and SPAN are the only allowed values for BLSR protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.
• FRCDWKSWPR	Working unit is forced to switch to the protection unit.
• LOCKOUTOFPR	Lockout of protection.
• LOCKOUTOFWK	Lockout of working.
• MANWKSWBK	Manual switch of working unit back to working.
• MANWKSWPR	Manual switch of working unit back to the protection unit.
• RING	BLSR ring switch type.
• SPAN	BLSR span switch type.

21.81 RTRV-PROTOCOL

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Protocol (RTRV-PROTOCOL) command retrieves the status of a protocol or service supported in the NE. Valid protocols include SHELL, EMS, TL1, and SNMP. If the AID is not specified, the status of all the protocols is retrieved.

Usage Guidelines

If the AID is TL1, the status can be retrieved to show if the protocol is in SECURE or UNSECURE mode.

Category

Security

Security

Retrieve

Input Format

RTRV-PROTOCOL:[<TID>]:[<AID>]:<CTAG>;

Input Example

RTRV-PROTOCOL::EMS:123;

Input Parameters

<AID>	(Optional) Identifies the protocol or service to which the command pertains. Defaults to ALL. A null value is equivalent to ALL. The parameter type is PROTOCOLAID, which is the AID for the protocol/service.
• EMS	CTC/CTM protocol/service
• SHELL	Shell/file system access protocol
• SNMP	SNMP protocol/service
• TL1	TL1 protocol service

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<PROTOCOLAID>:<PROTOCOLSTAT>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "EMS:UNSECURE"
;
```

Output Parameters

PROTOCOLAID	Identifies the protocol or service to which the command pertains. The parameter type is PROTOCOLAID, which is the AID for the protocol/service.
• EMS	CTC/CTM protocol/service
• SHELL	Shell/file system access protocol
• SNMP	SNMP protocol/service
• TL1	TL1 protocol/service
PROTOCOLSTAT	Identifies the status of the protocol or service. The parameter type is PROTOCOLSTAT, which is the status of the protocol.
• DISABLED	The protocol cannot be used.
• SECURE	The protocol is enabled and communications using the protocol are sure, for example, through SSH. Not applicable for SNMP protocols.
• UNSECURE	The protocol is enabled but communication is not secure, for example, through Telnet.

21.82 RTRV-PTHTRC-<PATH>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Path Trace for STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, VT1, or VT2 (RTRV-PTHTRC-<PATJ>) command retrieves the contents of the SONET path trace message.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

The path trace message is a 64-character string with the last two characters reserved for the terminating CR (carriage return) and the LF (line feed). The message can be an incoming path trace message, an expected incoming path trace message, or an outgoing path trace message, which is inserted into the path overhead of the outgoing signal.

The path trace mode has three modes: OFF, MANUAL, and AUTO. The path trace mode defaults to OFF mode. The MANUAL mode performs the comparison of the received string with the user-entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, the TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

When the expected string is queried under the OFF path trace mode, the expected string is a copy of the provisioned string or NULL. When an expected string is queried under the MANUAL path trace mode, the expected string is a copy of the user-entered string. When an expected string is queried under the AUTO path trace mode, the expected string is a copy of the acquired received string or NULL if the string has not been acquired.

When the incoming string is queried under the OFF path trace mode, the incoming string is NULL. When an incoming string is queried under the MANUAL or AUTO path trace mode, the incoming string is a copy of the received string or NULL if the string has not been received.

When the transmitted string is queried under the OFF, MANUAL, or AUTO path trace mode, the transmitted string is the provisioned transmit string.

Note

- A null value for the MSGTYPE defaults to INCTRC.
- Only the NEND location value is supported. A null value of the location defaults to NEND.
- Sending a FEND of the location with this command will return an “unsupported locn value” error message.
- J1 (EXPTRC/INCTRC) is implemented on the DS1/DS1N, DS3E/DS3NE, DS3XM, EC1, OC3, OC48A, OC192, OC192-XFP, and MRC-12 cards.
- TRC is supported only on DS1(N), DS3(N)E, and DS3XM cards.
- The VCAF AID is only valid on slots holding ML-Series cards.
- After the BLSR switch, the working path is switched out and the traffic goes through the protection path. The J1 trace message can be retrieved from the protection STS path.
- If there is an STS PCA on the protection path during the BLSR switch, the PCA path is preemptive. If this command is sent on the protection path after a BLSR switch, the command will return the trace message off of the protection path and not from the PCA path.
- The J2 path trace on the VT1.5 is supported on the VT1.5 cross-connection of the DS3XM-12 card in Software R5.0 and later.

- The VT2 modifier is not supported in this release.
- According to Telcordia GR-833, RTRV-PTHTRC-<PATH> can only have a single output row, therefore you cannot specify multiple AIDs using '&' with this command because each AID would require it's own output row. You also cannot use the AIDs that end in ALL because this might also result in multiple output rows.
- On the ONS 15310-MA, J2 path trace is supported on DS1 ports only. J2 path trace is not supported on ONS 15310-MA OCn ports and EC1 ports.

Category

Troubleshooting and Test Access

Security

Retrieve

Input Format

RTRV-PTHTRC-<PATH>:[<TID>]:<SRC>:<CTAG>::[<MSGTYPE>][:<LOCN>];

Input Example

RTRV-PTHTRC-STS1:CISCO:STS-2-1-1:123::EXPTRC:NEND;

Input Parameters

<SRC>	Source access identifier from the "25.10 CrossConnectId" section on page 25-20. Must not be null.
<MSGTYPE>	Type of autonomous message to be retrieved. A null value defaults to INCTRC. The parameter type is MSGTYPE, which is the type of trace message.
• EXPTRC	Expected incoming path trace message
• INCTRC	Incoming path trace message
• TRC	Outgoing path trace message
<LOCN>	Location associated with a particular command in reference to the entity identified by the AID. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<TRACMSG>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "TRACMSG"
;
```

Output Parameters		
	<TRACMSG>	The path trace message returned to the requester. The message can be up to 64 characters in length with the last two characters reserved for the CR (carriage return) and the LF (line feed). TRACMSG is a string.

21.83 RTRV-RMONTH-<MOD2_RMON>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA) The Retrieve Remote Monitoring Threshold for 10GFC, 10GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, FSTE, G1000, GFPOS, GIGE, OCH, or POS (RTRV-RMONTH-<MOD2_RMON>) command retrieves the thresholds defined in the RMON alarm table.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Category

Performance

Security

Retrieve

Input Format

RTRV-RMONTH-<MOD2_RMON>:[<TID>]:<SRC>:<CTAG>::[<MONTYPE>],,,,[<INTVL>]:[RISE=<RISE>],[FALL=<FALL>],[SAMPLE=<SAMPLE>],[STARTUP=<STARTUP>][:];

Input Example

RTRV-RMONTH-GIGE:CISCO:FAC-2-1:1234::ETHERSTATSOCTETS,,,,100:RISE=1000,FALL=100,SAMPLE=DELTA,STARTUP=RISING;

Input Parameters		
	<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. AID for the facility that the data statistic is managed by. Must not be null.
	<MONTYPE>	Monitored type. Type of RMON monitored data statistic. A null value is equivalent to ALL. The parameter type is ALL_MONTYPE, which is the monitoring type list.
	• AISSP	Alarm Indication Signal Seconds—Path
	• ALL	All possible values
	• BBE-PM	OTN—Background Block Errors—Path Monitor Point
	• BBE-SM	OTN—Background Block Errors—Section Monitor Point
	• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage.
	• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage.
	• BIEC	FEC—Bit Errors Corrected

• CGV	8B10B—Code Group Violations
• CSSP	Controlled Slip Seconds—Path (DSXM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ESV	Errored Seconds—VT Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio

• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High Order Path Negative Pointer Justification Count
• HP-NPJC-PGEN	High Order Path, Negative Pointer Justification Count
• HP-OI	Outage Intensity
• HP-PJCDIFF	High Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High Order Path Pointer Justification Count
• HP-PJCS-PGEN	High Order Path Pointer Justification Count Seconds
• HP-PPJC-PDET	High Order Path Positive Pointer Justification Count
• HP-PPJC-PGEN	High Order Path, Positive Pointer Justification Count
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA
• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA

• LBCN	Normalized Laser Bias Current for OC3-8
• LBCN-HWT	Laser Bias Current
• LBCN-LWT	Laser Bias Current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	PPJC-PDET:Negative Pointer Justification
• NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification
• OPR-AVG	Average Receive Power in one tenth of a microW
• OPR-MAX	Maximum Receive Power in one tenth of a microW
• OPR-MIN	Minimum Receive Power in one tenth of a microW
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microW
• OPT-MAX	Maximum Transmit Power in one tenth of a microW
• OPT-MIN	Minimum Transmit Power in one tenth of a microW
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	PPJC-PDET:Positive Pointer Justification

• PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VT Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VT Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<INTVL>	The interval in seconds during which the data is sampled and compared with the rising and falling threshold. A valid value is any integer larger than or equal to 10 (seconds). A null value is equivalent to ALL.
<RISE>	The rising threshold for the sampled statistic. A valid value is any integer. A null value is equivalent to ALL

<FALL>	The falling threshold. A valid value is any integer smaller than the rising threshold. A null value is equivalent to ALL.
<SAMPLE>	The method of calculating the value to be compared to the thresholds. A null value is equivalent to ALL. The parameter type is SAMPLE_TYPE, which describes how the data will be calculated during the sampling period.
• ABSOLUTE	Comparing directly
• DELTA	Comparing with the current value of the selected variable subtracted by the last sample
<STARTUP>	Dictates whether an event will generate if the first valid sample is greater than or equal to the rising threshold, less than or equal to the falling threshold, or both. A null value is equivalent to ALL. The parameter type is STARTUP_TYPE, which indicates whether an event will be generated when the first valid sample is crossing the rising or falling threshold.
• FALLING	Generates the event when the sample is smaller than or equal to the falling threshold.
• RISING	Generates the event when the sample is greater than or equal to the rising threshold.
• RISING-OR-FALLING	Generates the event when the sample is crossing the rising threshold, or the falling threshold.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AIDUNIONID>,<AIDTYPE>:<MONTYPE>,,,,<INTVL>:INDEX=<INDEX>,
   RISE=<RISE>,FALL=<FALL>,SAMPLE=<SAMPLE>,STARTUP=<STARTUP>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-2-1,GIGE:ETHERSTATSOCTETS,,,,100:INDEX=2,RISE=1000,FALL=100,
   SAMPLE=DELTA,STARTUP=RISING"
;
```

Output Parameters

<AIDUNIONID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<AIDTYPE>	The type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2_RMON, which is the line modifiers.
• 10GFC	10 Gigabit Fibre Channel
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1 Gigabit Fibre Channel
• 1GFICON	1 Gigabit FICON
• 2GFC	2 Gigabit Fibre Channel
• 2GFICON	2 Gigabit FICON

• FSTE	Fast Ethernet (10/100 Megabits per second)
• G1000	Gigabit Ethernet (used for G1000 ports)
• GFPOS	Generic framing protocol over SONET
• GIGE	Gigabit Ethernet (used for Non-G1000 ports)
• OCH	Optical channel
• POS	Packet over SONET
<MONTYPE>	Monitored type. Type of RMON monitored data statistic. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage
• BIEC	FEC—Bit Errors Corrected
• CGV	8B10B—Code Group Violations
• CSSP	Controlled Slip Seconds—Path (DSXM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ESV	Errored Seconds—VT Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address

• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High Order Path Negative Pointer Justification Count
• HP-NPJC-PGEN	High Order Path, Negative Pointer Justification Count
• HP-OI	Outage Intensity
• HP-PJCDIFF	High Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High Order Path Pointer Justification Count
• HP-PJCS-PGEN	High Order Path Pointer Justification Count Seconds
• HP-PPJC-PDET	High Order Path Positive Pointer Justification Count
• HP-PPJC-PGEN	High Order Path, Positive Pointer Justification Count
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors

• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA
• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA
• LBCN	Normalized Laser Bias Current for OC3-8
• LBCN-HWT	Laser Bias Current
• LBCN-LWT	Laser Bias Current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	PPJC-PDET:Negative Pointer Justification
• NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification

• OPR-AVG	Average Receive Power in one tenth of a microW
• OPR-MAX	Maximum Receive Power in one tenth of a microW
• OPR-MIN	Minimum Receive Power in one tenth of a microW
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microW
• OPT-MAX	Maximum Transmit Power in one tenth of a microW
• OPT-MIN	Minimum Transmit Power in one tenth of a microW
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	PPJC-PDET:Positive Pointer Justification
• PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point

• SESV	Severely Errored Second—VT Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VT Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<INTVL>	The interval in seconds over which the data is sampled and compared with the rising and falling threshold. A valid value is any integer larger than or equal to 10 (seconds).
<INDEX>	The index for the threshold created by the system in the RMON threshold table. INDEX is an integer.
<RISE>	The rising threshold for the sampled statistic. A valid value is any integer.
<FALL>	The falling threshold. A valid value is any integer smaller than the rising threshold. AID is an integer
<SAMPLE>	The method of calculating the value to be compared to the thresholds. The parameter type is SAMPLE_TYPE, which describes how the data will be calculated during the sampling period
• ABSOLUTE	Comparing directly
• DELTA	Comparing with the current value of the selected variable subtracted by the last sample
<STARTUP>	Dictates whether an event will generate if the first valid sample is greater than or equal to the rising threshold, less than or equal to the falling threshold, or both. The parameter type is STARTUP_TYPE, which indicates whether an event will be generated when the first valid sample is crossing the rising or falling threshold.
• FALLING	Generates the event when the sample is smaller than or equal to the falling threshold.
• RISING	Generates the event when the sample is greater than or equal to the rising threshold.
• RISING-OR-FALLING	Generates the event when the sample is crossing the rising threshold, or the falling threshold.

21.84 RTRV-ROLL-<MOD_PATH>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Roll for STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, VC11, VC12, VC3, VT1, or VT2 (RTRV-ROLL-<MOD_PATH>) command retrieves roll data parameters.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Category Bridge and Roll

Security Retrieve

Input Format RTRV-ROLL-<MOD_PATH>:[<TID>]:<SRC>:<CTAG>;

Input Example RTRV-ROLL-STS1:CISCO:STS-1-1-1:6;

Input Parameters

<SRC>	Source access identifier from the "25.11 CrossConnectId1" section on page 25-24 (except VCM and FACILITY). Roll path (STS or VT). Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<FROM>,<TO>:RFROM=<RFROM>,RTO=<RTO>,[RMODE=<RMODE>],
   VLDSIG=<VLDSIG>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "STS-1-1-1,STS-2-1-1:RFROM=STS-2-1-1,RTO=STS-3-1-1,RMODE=AUTO,VLDSIG=N"
;
```

Output Parameters

<FROM>	One of the termination points (legs) of the existing cross-connection. Access identifier from the "25.11 CrossConnectId1" section on page 25-24 (except VCM and FACILITY).
<TO>	One of the termination points (legs) of the existing cross-connection. Access identifier from the "25.11 CrossConnectId1" section on page 25-24 (except VCM and FACILITY).
<RFROM>	The termination point of the existing cross-connect that is to be rolled. AID from the "25.11 CrossConnectId1" section on page 25-24 (except VCM and FACILITY).
<RTO>	The termination point that will become a leg of the new cross-connection. AID from the "25.11 CrossConnectId1" section on page 25-24 (except VCM and FACILITY).
<RMODE>	(Optional) The rolling mode of operation. The parameter type is RMODE, which specifies the roll mode.
• AUTO	Automatic. When a valid signal is available, the roll under AUTO mode will automatically delete the previous end-point.

• MAN	Manual. Enter the corresponding delete roll/bulkroll command to delete the previous end-point.
<VLDSIG>	Shows whether or not the roll has received a valid signal. VLDSIG is Y if the signal is valid and N if it is not. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

21.85 RTRV-ROUTE

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Route (RTRV-ROUTE) command retrieves static routes.

Usage Guidelines

- There is no DNS service available on the node. Only numeric IP addresses will be accepted.
- The optional parameters DESTIP, IPMASK, NXTHOP, and COST are used to filter the retrieved static routes. In the absence of any optional parameter, all the static routes on the node will be retrieved.

Category

System

Security

Retrieve

Input Format

RTRV-ROUTE:[<TID>]::<CTAG>::[<DESTIP>],[<IPMASK>],[<NXTHOP>],[<COST>];

Input Example

RTRV-ROUTE:CISCO::123::10.64.72.57,255.255.255.0,10.64.10.1,200;

Input Parameters

<DESTIP>	Destination tip. DESTIP is a string. A null value is equivalent to ALL.
<IPMASK>	IP mask. IPMASK is a string. A null value is equivalent to ALL.
<NXTHOP>	Next hop. NXTHOP is a string. A null value is equivalent to ALL.
<COST>	Unsigned integer. Valid range is from 1 to 32,797. A null value is equivalent to ALL.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   ",:<DESTIP>,<IPMASK>,<NXTHOP>,<COST>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   ",:\"10.64.72.57\",\"255.255.255.0\",\"10.64.10.1\",200"
;
```

Output Parameters

<DESTIP>	Destination tip. DESTIP is a string.
<IPMASK>	IP mask. IPMASK is a string.
<NXTHOP>	Next hop. NXTHOP is a string.
<COST>	Cost. COST is a string.

21.86 RTRV-ROUTE-GRE

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Route Generic Routing Encapsulation (RTRV-ROUTE-GRE) command displays the existing GRE tunnels.

Usage Guidelines

None

Category

System

Security

Retrieve

Input Format

RTRV-ROUTE-GRE:[<TID>]::<CTAG>[::::];

Input Example

RTRV-ROUTE-GRE:CISCO::123;

Input Parameters

None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   ",:IPADDR=<IPADDR>,IPMASK=<IPMASK>,NSAP=<NSAP>,COST=<COST>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   ",:IPADDR=10.64.72.57,IPMASK=255.255.255.0,
   NSAP=39840F80FFFFFF0000DDDDAA000010CFB4910200,COST=110"
;
```

Output Parameters

<IPADDR>	IP address of the tunnel endpoint. IPADDR is a string.
<IPMASK>	Subnet mask for the tunnel endpoint. IPMASK is a string.
<NSAP>	NSAP address for the tunnel endpoint. NSAP is a string.
<COST>	Routing cost associated with the tunnel. COST is an integer.

21.87 RTRV-SLV-WDMANS

(Cisco ONS 15454) The Retrieve Span Loss Verification Wavelength Division Multiplexing Automatic Node Setup (RTRV-SLV-WDMANS) command retrieves the expected span loss verification provisioned by the ED-SLV-WDMANS command.

Usage Guidelines

None

Category

DWDM

Security

Retrieve

Input Format

RTRV-SLV-WDMANS:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-SLV-WDMANS:VA454-22:WDMANS-E:116;

Input Parameters

<AID>	Access identifier from the "25.32 WDMANS" section on page 25-51. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[HIGHSLVEXP=<HIGHSLVEXP>],[LOWSLVEXP=<LOWSLVEXP>],
   [SLVACT=<SLVACT>],[RESOLUTION=<RESOLUTION>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "WDMANS-E::HIGHSLVEXP=10.0,LOWSLVEXP=5.0,SLVACT=10.0,RESOLUTION=1.0:"
;
```

Output Parameters

<AID>	Access identifier from the "25.32 WDMANS" section on page 25-51.
<HIGHSLVEXP>	(Optional) The high range value of the expected span loss verification. HIGHSLVEXP is a float.
<LOWSLVEXP>	(Optional) The low range value of the expected span loss verification. LOWSLVEXP is a float.
<SLVACT>	(Optional) The value of the calculated span loss verification. SLVACT is a float.
<RESOLUTION>	(Optional) The value of the resolution applied to the calculated span loss verification. RESOLUTION is a float.

21.88 RTRV-STS

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Synchronous Transport Signal (RTRV-STS) command retrieves the attributes associated with an STS path based on the granularity level of NE/SLOT-specific STSs.

Usage Guidelines

- Supported AIDs are ALL, SLOT-N (N=1,2,...,ALL), STS-<SLOT>[-<PORT>]-<STS NUMBER>.
- The SFBER, SDBER, RVRTV, RVTM, SWPDIP, HOLDOFFTIMER, and UPSRPTHSTATE parameters only apply to path protection.
- The path trace message is a 64-character string including the terminating CR (carriage return) and LF (line feed) that is transported in the J1 byte of the SONET STS Path overhead.
- The EXPTRC indicates that the contents of the expected incoming path trace are provisioned by the user in the ED-STS_PATH command. The TRC indicates the contents of the outgoing path trace message. The INCTRC indicates the contents of the incoming path trace message.
- The path trace mode has three modes: OFF, MANUAL, and AUTO. The mode defaults to OFF. The MANUAL mode compares the received string with the user entered expected string. The AUTO mode compares the present received string with an expected string set to a previously received string. If there is a mismatch, the TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.
- When the expected string is queried under the OFF path trace mode, the expected string is a copy of the provisioned string or NULL. When an expected string is queried under the MANUAL path trace mode, the expected string is a copy of the user entered string. When an expected string is queried under the AUTO path trace mode, the expected string is a copy of the acquired received string or NULL if the string has not been acquired.
- When the incoming string is queried under the OFF path trace mode, the incoming string is NULL. When an incoming string is queried under the MANUAL or AUTO path trace mode, the incoming string is a copy of the received string or NULL if the string has not been received.
- J1 (EXPTRC) is implemented on the DS1/DS1N, DS3E/DS3NE, DS3XM, EC1, DS3-EC1-48 OC3, OC12-4, OC48AS, OC192, OC192-XFP, and MRC-12 cards.
- TRC and INCTRC are supported on DS1(N), DS3(N)E, DS3-EC1-48, DS3XM, OC192-XFP and MRC-12 cards.
- In Software R5.0 and later, the ED-VT1 command is only supported to edit the J2 path trace on the VT1.5 cross-connection of the DS3XM-12 card.

Category Paths

Security Retrieve

Input Format

```
RTRV-STS:[<TID>]:<AID>:<CTAG>;
```

Input Example

```
RTRV-STS:TID:STS-2-1-1:1;
```

Input Parameters

<AID>	Access identifier from the "25.2 AidUnionId" section on page 25-11.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[LEVEL=<LEVEL>],[SFBER=<SFBER>],[SDBER=<SDBER>],[RVRTV=<RVRTV>],
   [RVTM=<RVTM>],[SWPDIP=<SWPDIP>],[HOLDOFFTIMER=<HOLDOFFTIMER>],
   [EXPTRC=<EXPTRC>],[TRC=<TRC>],[INCTRC=<INCTRC>],[TRCMODE=<TRCMODE>],
   [TACC=<TACC>],[TAPTYPE=<TAPTYPE>],[UPSRPTHSTATE=<UPSRPTHSTATE>],
   [C2=<C>],[BLSRPTHSTATE=<BLSRPTHSTATE>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "STS-2-1-4::LEVEL=STS3C,SFBER=1E-3,SDBER=1E-5,RVRTV=Y,RVTM=1.0,SWPDIP=Y,
   HOLDOFFTIMER=2000,EXPTRC="EXPTRCSTRING",TRC="TRCSTRING",
   INCTRC="INCTRCSTRING",TRCMODE=AUTO,TACC=8,TAPTYPE=SINGLE,
   UPSRPTHSTATE=ACT,C2=0X04,BLSRPTHSTATE=PROTPTHACT:OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.2 AidUnionId" section on page 25-11.
<LEVEL>	(Optional) The rate of the cross-connect. Applicable only to STS paths in SONET. The parameter type is STS_PATH, which is the modifier for some STS commands.
• STS1	Synchronous Transport Signal level 1 (51 Mbps)
• STS12C	Synchronous Transport Signal level 12 Concatenated (622 Mbps)
• STS18C	Synchronous Transport Signal level 18 Concatenated (933 Mbps)
• STS192C	Synchronous Transport Signal level 192 (9952 Mbps)
• STS24C	Synchronous Transport Signal level 24 Concatenated (1240 Mbps)
• STS36C	Synchronous Transport Signal level 36 Concatenated (1866 Mbps)
• STS3C	Synchronous Transport Signal level 3 Concatenated (155 Mbps)

• STS48C	Synchronous Transport Signal level 48 Concatenated (2488 Mbps)
• STS6C	Synchronous Transport Signal level 3 Concatenated (310 Mbps)
• STS9C	Synchronous Transport Signal level 9 Concatenated (465 Mbps)
<SFBER>	(Optional) An STS path SFBER that applies only to path protection and only to STS-level paths in SONET. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) An STS path SDBER that applies only to path protection and only to STS-level paths in SONET. Defaults to 1E-6. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<RVRTV>	Revertive mode. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. Only applies to path protection. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	Revertive time. RVTM is not allowed to be set while RVRTV is N. Only applies to path protection. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<SWPDIP>	(Optional) Switch on PDI-P. Applicable only to STS-level paths in SONET (STSn). The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<HOLDOFFTIMER>	(Optional) Hold off timer. HOLDOFFTIMER is an integer.
<EXPTRC>	(Optional) Expected path trace content. A 64-character ASCII string including the terminating CR (carriage return) and LF (line feed). Indicates the expected path trace message (J1) contents. Applicable only to STS-Level Paths in SONET. Defaults to null when path protection path is created.

<TRC>	(Optional) The path trace message to be transmitted. The trace byte (J1) continuously transmits a 64-byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (hex 00) and CR and LF. A null value defaults to the NE transmitting null characters (Hex 00). Applicable to STS-level paths in SONET (STSn). TRC is a string.
<INCTRC>	(Optional) Identifies the incoming path trace message contents. Can be any combination of 64-characters. Applicable only to STS-level paths in SONET. Defaults to null when a path protection path is created. INCTRC is a string.
<TRCMODE>	(Optional) Path trace mode. Applicable only to STS-level Paths in SONET (STSn). Defaults to the OFF mode. The parameter type is TRCMODE (trace mode).
• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.
• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• OFF	Turn off path trace capability. Nothing will be reported.
<TACC>	(Optional) Indicates whether the digroup being provisioned is to be used as a test access digroup. Default is N. TACC is an integer.
<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<UPSRPTHSTATE>	(Optional) Indicates whether a given AID is the working or standby path of a path protection cross-connect. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<C>	(Optional) The C2 byte hex code. Applicable only to STS-level paths in SONET (STSn). The parameter type is C2_BYTE, which is the C2 byte hex code.
• 0X00	Unequipped
• 0X01	Equipped-Non-Specific payload
• 0X02	VT-Structured STS-1 SPE
• 0X03	Locked VT Mode
• 0X04	Asynchronous Mapping for DS3
• 0X12	Asynchronous Mapping for DS4NA
• 0X13	Mapping for ATM
• 0X14	Mapping for DQDB
• 0X15	Asynchronous Mapping for FDDI

• 0X16	HDLC-Over-SONET Mapping
• 0XE1	VT-structured STS-1 SPE with 1VTx payload defect
• 0XE2	VT-structured STS-1 SPE with 2VTx payload defects
• 0XE3	VT-structured STS-1 SPE with 3VTx payload defects
• 0XE4	VT-structured STS-1 SPE with 4VTx payload defects
• 0XE5	VT-structured STS-1 SPE with 5VTx payload defects
• 0XE6	VT-structured STS-1 SPE with 6VTx payload defects
• 0XE7	VT-structured STS-1 SPE with 7VTx payload defects
• 0XE8	VT-structured STS-1 SPE with 8VTx payload defects
• 0XE9	VT-structured STS-1 SPE with 9VTx payload defects
• 0XEA	VT-structured STS-1 SPE with 10VTx payload defects
• 0XEB	VT-structured STS-1 SPE with 11VTx payload defects
• 0XEC	VT-structured STS-1 SPE with 12VTx payload defects
• 0XED	VT-structured STS-1 SPE with 13VTx payload defects
• 0XEE	VT-structured STS-1 SPE with 14VTx payload defects
• 0XEF	VT-structured STS-1 SPE with 15VTx payload defects
• 0XF0	VT-structured STS-1 SPE with 16VTx payload defects
• 0XF1	VT-structured STS-1 SPE with 17VTx payload defects
• 0XF2	VT-structured STS-1 SPE with 18VTx payload defects
• 0XF3	VT-structured STS-1 SPE with 19VTx payload defects
• 0XF4	VT-structured STS-1 SPE with 20VTx payload defects
• 0XF5	VT-structured STS-1 SPE with 21VTx payload defects
• 0XF6	VT-structured STS-1 SPE with 22VTx payload defects
• 0XF7	VT-structured STS-1 SPE with 23VTx payload defects
• 0XF8	VT-structured STS-1 SPE with 24VTx payload defects
• 0XF9	VT-structured STS-1 SPE with 25VTx payload defects
• 0XFA	VT-structured STS-1 SPE with 26VTx payload defects
• 0XFB	VT-structured STS-1 SPE with 27VTx payload defects
• 0XFC	VT-structured STS-1 SPE with 28VTx payload defects
• 0XFE	O.181 Test Signal (TSS1 to TSS3) Mapping
• 0XFF	Reserved, however, C2 is 0XFF if AIS-L is being generated by an optical card or cross-connect downstream.
<BLSRPTHSTATE>	(Optional) The BLSR path state only if the port is on the BLSR. Applicable only to STS-level paths in SONET (STSn). The parameter type is BLSR_PTH_STATE, which is the BLSR path state only if the port is on the BLSR.
• PCAPTHACT	Indicates the BLSR is not switched and its PCA path is in the active state.
• PCAPTHSTB	Indicates the BLSR is switched and its PCA path is in the standby state.
• PROTPTHACT	Indicates the BLSR is switched and its protection path is in the active state.

• WKGPTHACT	Indicates the BLSR is not switched and its working path is in the active state.
• WKGPTHSTB	Indicates the BLSR is switched and its working path is in the standby state.
<PST_PSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.89 RTRV-SYNCN

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Synchronization command retrieves the synchronization reference list used to determine the sources for the NE's reference clock and the BITS output clock. For each clock, up to three synchronization sources can be specified (for example, PRIMARY, SECOND, THIRD).

Usage Guidelines

- To retrieve/set the timing mode, SSM message Set or Quality of RES information, use the RTRV-NE-SYNCN and ED-NE-SYNCN commands.
- The output example shown here is under line timing mode.

Category Synchronization

Security Retrieve

Input Format RTRV-SYNCN:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-SYNCN:BOYES:SYNC-NE:234;

Input Parameters

<AID>	Access identifier from the "25.28 SYNC_REF" section on page 25-48. Must not be null.

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>:<REF>,<REFVAL>,[<QREF>],[<STATUS>],[<PROTECTSTATUS>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"SYNC-NE:PRI,FAC-1-2,WORK,ACT,PRS"
;

Output Parameters

<AID>	Access identifier from the "25.28 SYNC_REF" section on page 25-48.
<REF>	Rank of synchronization reference. Access identifier from the "25.29 SYNCSW" section on page 25-48.
<REFVAL>	Value of a synchronization reference. "25.27 SYN_SRC" section on page 25-47.
<QREF>	(Optional) Indicates whether the working or protect card (in a protection group) provides timing. This parameter has no significance if the reference source is BITS or INTERNAL and is left blank. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<STATUS>	(Optional) Status. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.

<PROTECTSTATUS>	(Optional) Applicable to 1+1. Designates the role of the entity in the protection group. Either it is the working or the protect entity. Not applicable to the ONS 15600 platform. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.

21.90 RTRV-T1

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA) The Retrieve T1 Facility (RTRV-T1) command retrieves the DS-1 facilities configuration.

Usage Guidelines

- T1 facilities on the ONS 15327 and the ONS 15310-CL are on the XTC and 15310-CL-CTX cards, respectively.
- The parameters SYNCMAP, ADMSSM, VTMAP, INHFELPBK, AND PROVIDESYNC are only displayed on the DS1/E1-56 card (ONS 15454).

Category

Ports

Security

Retrieve

Input Format

RTRV-T1:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-T1:TID:FAC-2-1:1223;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[LINECDE=<LINECDE>],[FMT=<FMT>],[LBO=<LBO>],[TACC=<TAP>],
   [TAPTYPE=<TAPTYPE>],[SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],
   [SFBER=<SFBER>],[SDBER=<SDBER>],[NAME=<NAME>],[SYNCMSG=<SYNCMSG>],
   [SENDDUS=<SENDDUS>],[RETIME=<RETIME>],[AISONLPBK=<AISONLPBK>],
   [AISVONAIS=<AISVONAIS>],[AISONLOF=<AISONLOF>],[MODE=<MODE>],
   [SYNCMAP=<SYNCMAP>],[ADMSSM=<ADMSSM>],[PROVIDESYNC=<PROVIDESYNC>],
   [VTMAP=<VTMAP>],[INHFELPBK=<INHFELPBK>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-2-1::LINECDE=AMI,FMT=ESF,LBO=0-131,TACC=8,TAPTYPE=DUAL,SOAK=52,
   SOAKLEFT=12-25,SFBER=1E-4,SDBER=1E-7,NAME=\"T1 PORT\",SYNCMSG=Y,
   SENDDUS=Y,RETIME=Y,AISONLPBK=AIS_ON_LPBK_ALL,AISVONAIS=Y,,AISONLOF=Y,
   MODE=FDL,SYNCMAP=ASYNC,ADMSSM=STU,PROVIDESYNC=N,VTMAP=GR253,
   INHFELPBK=N:OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<LINECDE>	(Optional) Line code. The parameter type is LINE_CODE.
• AMI	Line code value is AMI.
• B8ZS	Line code value is B8ZS.
<FMT>	(Optional) Digital signal frame format. The parameter type is FRAME_FORMAT, which is the frame format for a T1 port.
• D4	Frame format is D4.
• ESF	Frame format is ESF.
• UNFRAMED	Frame format is unframed.
<LBO>	(Optional) Line buildout settings. LBP is an integer. The parameter type is LINE_BUILDOUT.
• 0–131	Line buildout range is 0–131
• 132–262	Line buildout range is 132–262
• 263–393	Line buildout range is 263–393
• 394–524	Line buildout range is 394–524
• 525–655	Line buildout range is 525–655
<TAP>	(Optional) Defines the STS as a test access port with a selected unique TAP number. The TAP number is within a range of 0, 1 to 999. When TACC is 0 (zero), the TAP is deleted. Default is N.
<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.

<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. SOAKLEFT is a string. Rules for SOAKLEFT are as follows: • When the port is in OOS, OOS_MT, or IS state, the parameter will not appear. • When the port is in OOS_AINS but the countdown has not started due to fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<SFBER>	(Optional) The port signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Port signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<NAME>	(Optional) Port name. NAME is a string.
<SYNCMSG>	Synchronization status messaging is enabled or disabled on the T1 facility. **Note** For ONS 15310-CL, SYNCMSG defaults to N. SYNCMSG is not supported on the ONS 15454 or ONS 15327. The parameter type is YES_NO, which is whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
<SENDDUS>	The facility will send the DUS value as the sync status message for that facility. **Note** For ONS 15310-CL, SENDDUS is optional and defaults to N. SENDDUS is not supported on the ONS 15454 or ONS 15327. The parameter type is YES_NO, which is whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.

<RETIME>	(Optional) Indicates if retiming is needed. **Note** For ONS 15310-CL, RETIME is optional and defaults to N. RETIME is not supported on the ONS 15454 or ONS 15327. The parameter type is YES_NO, which is whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
• FDL	Indicates the DS1 path of the DS3XM-12 is in FDL T1-403 mode.
<AISONLPBK>	(Optional) Defaults to AIS_ON_LPBK_ALL. The parameter type is AIS_ON_LPBK, which indicates if AIS is sent on a loopback
• AIS_ONLPBK_FACILITY	AIS is sent on facility loopbacks.
• AIS_ON_LPBK_ALL	AIS is sent on all loopbacks.
• AIS_ON_LPBK_OFF	AIS is not sent on loopbacks.
• AIS_ON_LPBK_TERMINAL	AIS is sent on terminal loopbacks.
<AISVONAIS>	(Optional) Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<AISVONLOF>	(Optional) The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<MODE>	(Optional) Mode. Default value is FDL. The parameter type is DS1MODE, which is the DS1 path mode of the DS3XM-12 card
• ATT	Indicates the DS1 path of the DS3XM-12 is in AT&T 54016 mode.
• FDL	Indicates the DS1 path of the DS3XM-12 is in FDL T1-403 mode.
<SYNCMAP<	(Optional) The synchronous mapping for the DS1 facility. Defaults to ASYNC. Only supported on ONS 15454. The parameter type is SYNCMAP, which is the synchronous mapping type.
• ASYNC	Asynchronous
• BYTE	Byte
• JBYTE	Jbyte
<ADMSSM>	(Optional) The administrative synchronization status message. Only supported on the ONS 15454. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable

• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<PROVIDESYNC>	(Optional) Indicates whether the facility provides synchronization. Only supported on ONS 15454. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<VTMAP>	(Optional) The port to VT mapping type for that particular STS. Only supported on ONS 15454. Defaults to GR253. The parameter type is VTMAP, which is the VT mapping.
• GR253	Mapping based on Telcordia GR-253.
• INDUSTRY	Mapping based on industry standard.
<INHFELPBK>	(Optional) Indicates whether far end loopbacks are inhibited on the facility. Only supported on ONS 15454. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<PST_PSTQ>	Primary state. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.91 RTRV-T3

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA) The Retrieve T3 (RTRV-T3) command retrieves the facility properties of a DS3 or a DS3XM card.

Usage Guidelines

- T3 facilities on the ONS 15327 and the ONS 15310-CL are on the XTC and 15310-CL-CTX cards, respectively.
- CTC can set the FMT attribute of a DS3NE line to AUTOPROVISION, to set the framing based on the incoming framing. This would result in the FMT field being blanked out for a few seconds or blanked out forever for a preprovisioned DS3NE card on CTC.
- The autoprovision is not considered a valid DS3 framing type. It is used only to trigger an autosense and subsequent autoprovisioning of a valid DS3 framing type (unframed, M23, C-BIT).
- TL1 does not have the autoprovision mode according to Telcordia GR-199. TL1 maps/returns the autoprovision to be unframed.
- For the DS3XM-12 card, the DS3/T3 configurable attributes (PM, TH, alarm, etc.) only apply on the ported ports (1 to 12) and the DS3-mapped (even) portless ports in xxx-xxx-T3 commands. If you attempt to provision or retrieve DS3/T3 attributes on the VT-mapped (odd) portless port in xxx-xxx-T3 commands, an error message will be returned.
- For the DS3XM-12 card, if the administrative state is already set for a portless port the state setting operation over its associated ported port is an invalid operation.

Category

Ports

Security

Retrieve

Input Format

RTRV-T3:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-T3:CISCO:FAC-1-2:123;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[FMT=<FMT>],[LINECDE=<LINECDE>],[LBO=<LBO>],
   [INHFELPBK=<INHFELPBK>],[TACC=<TAP>],[TAPTYPE=<TAPTYPE>],
   [SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[SFBER=<SFBER>],[SDBER=<SDBER>],
   [NAME=<NAME>],[AISONLPBK=<AISONLPBK>]:<PST_PSTQ>,[<SSTQ>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-1-2::FMT=C-BIT,LINECDE=B3ZS,LBO=0-225,INHFELPBK=N,TACC=8,
   TAPTYPE=SINGLE,SOAK=52,SOAKLEFT=12-25,SFBER=1E-4,SDBER=1E-7,
   NAME=\"T3 PORT\",AISONLPBK=AIS_ON_LPBK_ALL:OOS-AU,AINS"
;
```

Output Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33.
<FMT>	(Optional) Digital signal format. The parameter type is DS_LINE_TYPE, which is the DS123 line type.
• C-BIT	C-BIT line type applies to the DS3XM and DS3E cards.
• M13	M13 line type applies to the DS3XM and DS3E cards.
• UNFRAMED	Line type is unframed. The old DS3 (L3M) and DS3CR cards can only run in unframed mode.
<LINECDE>	(Optional) Line code. The parameter type is DS_LINE_CODE, which is the DS123 line code.
• B3ZS	Binary three-zero substitution.
<LBO>	(Optional) Line buildout settings. LBO is an integer. The parameter type is E_LBO, which is the electrical signal line buildout.
• 0–225	Electrical signal line buildout range is 0–225.
• 226–450	Electrical signal line buildout range is 226–450.
<INHFELPBK>	(Optional) Far-end loopback inhibition attribute of the port. If it is Y, the automatic far-end loopbacks are inhibited. It is either on or off. The system default is N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<TAP>	(Optional) Defines the STS as a test access port with a selected unique TAP number. The TAP number is within a range of 0, 1 to 999. When TACC is 0 (zero), the TAP is deleted. Default is N.
<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.

<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. SOAKLEFT is a string. Rules for <SOAKLEFT> are as follows: • When the port is in OOS, OOS_MT, or IS state, the parameter will not appear. • When the port is in OOS_AINS but the countdown has not started due to fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<SFBER>	(Optional) The port signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Port signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<NAME>	(Optional) Port name. NAME is a string.
<AISONLPBK>	(Optional) AIS on loopback. The parameter type is AIS_ON_LPBK, which indicates if AIS is sent on a loopback.
• AIS_ONLPBK_FACILITY	AIS is sent on facility loopbacks.
• AIS_ON_LPBK_ALL	AIS is sent on all loopbacks.
• AIS_ON_LPBK_OFF	AIS is not sent on loopbacks.
• AIS_ON_LPBK_TERMINAL	AIS is sent on terminal loopbacks.
<PST_PSTQ>	Primary state. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (SST) and a primary state qualifier (PSTQ).
• IS-NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic in-service
• DSBLD	Disabled
• LPBK	Loopback

• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.92 RTRV-TACC

(Cisco ONS 15454, ONS 15327, ONS 15310-MA, ONS 15600) The Retrieve Test Access (RTRV-TACC) command retrieves details associated with a TAP. The TAP is identified by the TAP number. The ALL input TAP value means that the command will return all the configured TACCs in the NE.

Usage Guidelines

None

Category

Troubleshooting and Test Access

Security

Retrieve

Input Format

RTRV-TACC:[<TID>]:<TAP>:<CTAG>;

Input Example

RTRV-TACC:CISCO:241:CTAG;

Input Parameters

<TAP>	The assigned number for AID being used as a test access point. TAP must be an integer within a range of 1 to 999. The ALL TAP value returns all the configured TACCs in this NE. TAP is a string. TAP must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<TAP>:<TACC_AIDA>,<TACC_AIDB>,[<MD>],[<CROSSCONNECTID1>],
   <AIDUNIONID>,<PATHWIDTH>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "241:STS-2-1-1,STS-2-1-2,MONE,STS-12-1-1,STS-13-1-1,STS1"
;
```

Output Parameters

<TAP>	The assigned number for the AID being used as a test access point. TAP is an integer.
<TACC_AIDA>	Access identifier from the "25.10 CrossConnectId" section on page 25-20. The A path of the test access point. The first STS/VT path of the TAP.
<TACC_AIDB>	Access identifier from the "25.10 CrossConnectId" section on page 25-20. The B path of the test access point. The second STS/VT path of the TAP. For single FAD TAP this path will be empty.
<MD>	(Optional) Test access mode. It identifies the mode of access between the TAP and the circuit connected to the TAP. The parameter type is TACC_MODE, which is the test access mode.
• LOOPE	Indicates to split both the A and B paths. Connect the line incoming from E direction to the line outgoing in the E direction, and connect this looped configuration to the FAD. The line outgoing in the F direction will have a QRS connected, and the line incoming from the F direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
• LOOPF	Indicates to split both the A and B paths. Connect the line incoming from F direction to the line outgoing in the F direction, and connect this looped configuration to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
• MONE	Indicates that a monitor connection is to be provided from the FAD to the A transmission path of the accessed circuit.
• MONEF	Indicates that a monitor connection is to be provided from the FAD1 to a DFAD, or from the odd pair of a FAP to the A transmission path and from FAD2 of the same DFAD, or from the even pair of a FAP to the B transmission path of the accessed circuit.
• MONF	Indicates that a monitor connection is to be provided from the FAD to the B transmission path of the accessed circuit.
• SPLTA	Indicates that a connection is to be provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and split the A transmission path. Intrusive test access mode.
• SPLTB	Indicates that a connection is to be provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and split the B transmission path. Intrusive test access mode.
• SPLTE	Indicates to split both the A and B paths and connect the E side of the accessed circuit to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.

• SPLTEF	Indicates to split both the A and B paths, and connect the E side of the accessed circuit to FAD1 and the F side to FAD2. Intrusive test access mode.
• SPLTF	Indicates to split both the A and B paths, and connect the F side of the accessed circuit to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
<CROSSCONNECTID1>	(Optional) Access identifier from the "25.10 CrossConnectId" section on page 25-20. The E path of the cross-connect.
<PATHWIDTH>	The cross-connection width. The parameter type is CRS_TYPE, which is the cross-connection type.
• STS	Indicates all the STS cross-connections.
• STS1	STS1 cross-connect
• STS3C	STS3C cross-connect
• STS6C	STS6C cross-connect
• STS9C	STS9C cross-connect
• STS12C	STS12C cross-connect
• STS18C	STS18C cross-connect
• STS24C	STS24C cross-connect
• STS36C	STS36C cross-connect
• STS48C	STS48C cross-connect
• STS192C	STS192C cross-connect
• VT	Indicates all the VT1 cross-connections.
• VT1	VT1 cross-connect
• VT2	VT2 cross-connect
<CROSSCONNECTID2>	(Optional) Access identifier from the "25.10 CrossConnectId" section on page 25-20. The F path of the cross-connect.

21.93 RTRV-TADRMAP

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Target Identifier Address Mapping (RTRV-TADRMAP) command retrieves the contents of the TADRMAP table.

Usage Guidelines None

Category System

Security Retrieve

Input Format RTRV-TADRMAP:[<TID>]:[<AID>]:<CTAG>[:::MODE=<MODE>];

Input Example RTRV-TADRMAP:CISCO:AIP:100:::MODE=PROV;

Additional input examples:

1. To retrieve another node's NSAP (TID=NODE-1) while using a TL1 session on the local node (TID=NODE-2), follow this input example:

   RTRV-TADRMAP:NODE-2:NODE-1:1:::MODE=NSAP;

   Output example:

   NODE-2 2006-01-26 14:47:30

   M 1 COMPLD

   "TIDNAME=NODE-1,NSAP=TARP request has been initiated. Check again later."

   ;

   RTRV-TADRMAP:NODE-2::123;

   NODE-2 2006-01-26 14:47:38

   M 123 COMPLD

   "TIDNAME=NODE-2,IPADDR=10.92.24.146,"

   "TIDNAME=NODE-1,NSAP=39840F80000000000000000000010010CFCE5A0200"

   ;

2. To retrieve the NSAP address of a node (TID=NODE-2) itself, follow this input example:

   RTRV-TADRMAP:NODE-2:NODE-2:1:::MODE=NSAP;

   Output example:

   NODE-2 2006-01-26 14:48:07

   M 1 COMPLD

   "TIDNAME=NODE-2,NSAP=39840F80000000000000000000001000BFCF8A88500"

   ;

3. To retrieve the local TARP data cache (TDC) of a node (no AID required) follow this input example:

   RTRV-TADRMAP:NODE-2::123:::MODE=NSAP;

   Output example:

   NODE-2 2006-01-26 13:47:38

   M 123 COMPLD

   "TIDNAME=FOREIGN-NODE-1,NSAP=39840F80000000000000000000001000075DE520800"

   "TIDNAME=FOREIGN-NODE-2,NSAP=39840F80000000000000000000001000075D07A4A00"

   "TIDNAME=NODE-1,NSAP=39840F80000000000000000000010010CFCE5A0200"

   ;

Input Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. Must not be null.
<MODE>	Must not be null. The parameter type is MODE, which determines the category of addresses to return.
• ALL	Discovered and provisioned addresses
• DISC	Discovered addresses
• IP	IP addresses
• NSAP	NSAP addresses
• PROV	Provisioned

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "[TID=<TID>],[IP ADDRESS =<IPADDRESS>],[NSAP=<NSAP>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "TID=RANGERS1,IP ADDRESS = 64.101.245.5,
   NSAP=39840FFFFFFFOOOODDDDAA01D00F0400000700"
;
```

Output Parameters

<TID>	(Optional) Target identifier. TID is a string.
<IPADDRESS>	(Optional) IP address. IPADDRESS is a string.
<NSAP>	(Optional) NSAP address. NSAP is a string.

21.94 RTRV-TH-<MOD2>

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Threshold for 10GFC, 10GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, CLNT, D1VIDEO, DS1, DV6000, E1, E3, E4, EC1, ESCON, ETRCLO, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, OC12, OC192, OC3, OC48, OCH, OMS, OTS, POS, STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS6C, STS9C, T1, T3, VT1, or VT2 (RTRV-TH-<MOD2>) command retrieves the threshold level of one or more monitored parameters.

Usage Guidelines

See Table 27-1 on page 27-1 for supported modifiers by platform.

Note

- After the BLSR switch, the working path is switched out, the traffic goes through the protection path, and the threshold can be retrieved from the protection path.
- If there is an STS PCA on the protection path during BLSR switching, the PCA path is preemptive; sending this command on the protection path after the BLSR switch, the command returns the PMs off the protection path, not from the PCA path.

- The message is issued to retrieve the thresholds for PM and alarm thresholds. If it is used to retrieve the alarm thresholds, the time-period is not applicable.
- The presentation rules are as follows:
  - Client port only–Laser, Alarm and SONET Thresholds are applicable and will appear. Laser and alarm thresholds are only for near end. If the card payload is in SONET mode, then SONET thresholds will appear. The Receiver Temperature Montypes (RXT) are only applicable to the Trunk Port. The Transceiver Voltage Montypes (XCVR) are not applicable, though it may be displayed or handled.
  - Laser and Alarm thresholds are always available. Laser and alarm thresholds are only for near end. If ITU-T G.709 is enabled, then the OTN thresholds will appear. If ITU-T G.709 is enabled and FEC is enabled, then the FEC thresholds will appear. If the card payload is in SONET mode, then SONET thresholds will appear. The Transceiver Voltage Montypes (XCVR) are not applicable, though it is displayed or handled.
- Refer to the *Cisco ONS SONET TL1 Reference Guide* for specific card provisioning rules.

Category

Performance

Security

Retrieve

Input Format

RTRV-TH-<MOD2>:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<LOCN>],[<TMPER>][::];

Input Example

RTRV-TH-T3:CISCO:FAC-1-3:1234::CVL,NEND,15-MIN;

Input Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. Must not be null.
<MONTYPE>	Monitored type. **Note** MONTYPE defaults to CVL for OCN/EC1/DSN, to ESP for STSp, to UASV for VT1, and to AISSP for the DS1 layer of the DS3XM card. A null value is equivalent to ALL. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage.
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage.

• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CSSP	Controlled Slip Seconds—Path (DSXM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ESV	Errored Seconds—VT Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point

• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High Order Path Negative Pointer Justification Count
• HP-NPJC-PGEN	High Order Path, Negative Pointer Justification Count
• HP-OI	Outage Intensity
• HP-PJCDIFF	High Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High Order Path Pointer Justification Count
• HP-PJCS-PGEN	High Order Path Pointer Justification Count Seconds
• HP-PPJC-PDET	High Order Path Positive Pointer Justification Count
• HP-PPJC-PGEN	High Order Path, Positive Pointer Justification Count
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B- Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA

• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA
• LBCN	Normalized Laser Bias Current for OC3-8
• LBCN-HWT	Laser Bias Current
• LBCN-LWT	Laser Bias Current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	PPJC-PDET:Negative Pointer Justification
• NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification
• OPR-AVG	Average Receive Power in one tenth of a microW
• OPR-MAX	Maximum Receive Power in one tenth of a microW
• OPR-MIN	Minimum Receive Power in one tenth of a microW
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microW
• OPT-MAX	Maximum Transmit Power in one tenth of a microW
• OPT-MIN	Minimum Transmit Power in one tenth of a microW
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm

• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	PPJC-PDET:Positive Pointer Justification
• PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VT Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VT Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count

<LOCN>	Location associated with a particular command in reference to the entity identified by the AID. LOCN defaults to NEND (near end). A null value is equivalent to ALL. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<TMPER>	Accumulation time period for performance counters. Defaults to 15-MIN. Must not be null. The parameter type is TMPER, which is the accumulation time period for the performance management center
• 1-DAY	Performance parameter accumulation interval length; every 24-hours. For SONET PM data only one day of history data is available. For RMON managed PM data seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,[<AIDTYPE>]:<MONTYPE>,[<LOCN>],,<THLEV>,[<TMPER>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-1-3,DS3:CVL,NEND,,1,15-MIN"
;
```

Output Parameters

<AID>	Access identifier from the "25.1 ALL" section on page 25-1. Must not be null.
<AIDTYPE>	(Optional) Type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1 Gigabit Fibre Channel alarm
• 1GFICON	1 Gigabit FICON alarm
• 2GFC	2 Gigabit Fibre Channel alarm

• 2GFICON	2 Gigabit FICON alarm
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	GIG Ethernet port alarm
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS18C	STS18c alarm
• STS12C	STS12c alarm
• STS24C	STS24c alarm
• STS36C	STS36c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm

• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	XTC alarm (ONS 15327)
<MONTYPE>	Monitored type. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage.
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage.
• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CSSP	Controlled Slip Seconds—Path (DSXM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ESV	Errored Seconds—VT Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address

• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High Order Path Negative Pointer Justification Count
• HP-NPJC-PGEN	High Order Path, Negative Pointer Justification Count
• HP-OI	Outage Intensity
• HP-PJCDIFF	High Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High Order Path Pointer Justification Count
• HP-PJCS-PGEN	High Order Path Pointer Justification Count Seconds
• HP-PPJC-PDET	High Order Path Positive Pointer Justification Count
• HP-PPJC-PGEN	High Order Path, Positive Pointer Justification Count
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors

• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B- Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA
• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA
• LBCN	Normalized Laser Bias Current for OC3-8
• LBCN-HWT	Laser Bias Current
• LBCN-LWT	Laser Bias Current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	PPJC-PDET:Negative Pointer Justification
• NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification

• OPR-AVG	Average Receive Power in one tenth of a microW
• OPR-MAX	Maximum Receive Power in one tenth of a microW
• OPR-MIN	Minimum Receive Power in one tenth of a microW
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microW
• OPT-MAX	Maximum Transmit Power in one tenth of a microW
• OPT-MIN	Minimum Transmit Power in one tenth of a microW
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	PPJC-PDET:Positive Pointer Justification
• PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point

• SESV	Severely Errored Second—VT Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VT Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<LOCN>	(Optional) Location associated with a particular command. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<THELV>	Threshold level. THLEV is a float.
<TMPER>	(Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length; every 24-hours. For SONET PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.

21.95 RTRV-TH-ALL

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Threshold All (RTRV-TH-ALL) command retrieves the threshold level of all monitored parameters on the NE.

Usage Guidelines

- After a BLSR switch, the working path is switched out, the traffic goes through the protection path, and the threshold can be retrieved from the protection STS path.

- If there is an STS PCA on the protection path during BLSR switching, the PCA path is preemptive; sending this command on the protection path after a BLSR switch, the command returns the PMs from the protection path, not from the PCA path.
- Multiple RTRV completion codes will appear after the execution of this command according to Telcordia GR-1831-CORE for bulk retrievals. The final completion code after the multiple RTRV codes is COMPLD.
- Some monitored types are not available for some cards or cross-connect types. In that case, a 0 value will appear for the monitored type. This will happen only when a user requests the thresholds of a specific monitored parameter on the NE, and the monitored type does not apply to that card or cross-connect type. When the user does not filter by monitored type, the applicable thresholds will be retrieved.
- If the user requests the thresholds of a particular monitored type and if the monitored type is not applicable to some of the entities, DENY will not be returned.
- Refer to the *Cisco ONS SONET TL1 Reference Guide* for specific card provisioning rules.

Category Performance

Security Retrieve

Input Format RTRV-TH-ALL:[<TID>]::<CTAG>::[<MONTYPE>],[<LOCATION>],[<TMPER>][::];

Input Example RTRV-TH-ALL:CHARGERS6::123::CVL,NEND,15-MIN;

Input Parameters

<MONTYPE>	Monitored type. A null value defaults to ALL. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage
• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CSSP	Controlled Slip Seconds—Path (DSXM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path

• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ESV	Errored Seconds—VT Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio

• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High Order Path Negative Pointer Justification Count
• HP-NPJC-PGEN	High Order Path, Negative Pointer Justification Count
• HP-OI	Outage Intensity
• HP-PJCDIFF	High Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High Order Path Pointer Justification Count
• HP-PJCS-PGEN	High Order Path Pointer Justification Count Seconds
• HP-PPJC-PDET	High Order Path Positive Pointer Justification Count
• HP-PPJC-PGEN	High Order Path, Positive Pointer Justification Count
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA
• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA
• LBCN	Normalized Laser Bias Current for OC3-8
• LBCN-HWT	Laser Bias Current
• LBCN-LWT	Laser Bias Current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block

• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	PPJC-PDET:Negative Pointer Justification
• NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification
• OPR-AVG	Average Receive Power in one tenth of a microW
• OPR-MAX	Maximum Receive Power in one tenth of a microW
• OPR-MIN	Minimum Receive Power in one tenth of a microW
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microW
• OPT-MAX	Maximum Transmit Power in one tenth of a microW
• OPT-MIN	Minimum Transmit Power in one tenth of a microW
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	PPJC-PDET:Positive Pointer Justification
• PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring

• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VT Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VT Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<LOCATION>	The location. A null value defaults to NEND. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<TMPER>	The accumulation time period for performance counters. A null value defaults to 15-MIN. The parameter type is TMPER, which is the accumulation time period for the performance management counter.
• 1-DAY	Performance parameter accumulation interval length is every 24 hours.
• 1-HR	Performance parameter accumulation interval length is every 1 hour.
• 1-MIN	Performance parameter accumulation interval length is every 1 minute.

• 15-MIN	Performance parameter accumulation interval length is every 15 minutes.
• RAW-DATA	Performance parameter accumulation interval length starts from the last time the counters were cleared. This is only applicable to RMON-managed PMs.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>,<AIDTYPE>:<MONTYPE>,<LOCATION>,,<THLEV>,<TMPER>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "FAC-1-1,DS3:CVL,NEND,,1,15-MIN"
;
```

Output Parameters

<AID>	Access identifier from the "25.2 AidUnionId" section on page 25-11.
<AIDTYPE>	Specifies the type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type for certain generic TL1 commands.
• 1GFC	1 Gigabit Fibre Channel
• 1GFICON	1 Gigabit FICON
• 2GFC	2 Gigabit Fibre Channel
• 2GFICON	2 Gigabit FICON
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS1	DS1 alarm
• DS3I	DS3I alarm
• E100	E100 alarm
• E1000	E1000 alarm
• EC1	EC1 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FC	Fibre Channel alarm
• FSTE	FSTE alarm
• G1000	G1000 alarm
• GIGE	GIGE alarm
• ISC3PEER1G	1 Gbps ISC3 Peer

• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• MIC	MIC alarm (ONS 15327)
• MIC-EXT	MIC-EXT Alarm (ONS 15327)
• OC3	OC3 alarm
• OC12	OC12 alarm
• OC48	OC48 alarm
• OC192	OC192 alarm
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS alarm
• STS1	STS1 alarm
• STS3C	STS3c alarm
• STS6C	STS6c alarm
• STS9C	STS9c alarm
• STS12C	STS12c alarm
• STS18C	STS18c alarm
• STS24C	STS24c alarm
• STS48C	STS48c alarm
• STS192C	STS192c alarm
• SYNCN	SYNCN alarm
• T1	T1 alarm
• T3	T3 alarm
• TCC	TCC alarm
• VT1	VT1 alarm
• VT2	VT2 alarm
• XTC	ONS 15327 XTC alarm
<MONTYPE>	Monitored type. A null value defaults to ALL. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage
• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations

• CSSP	Controlled Slip Seconds—Path (DSXM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ESV	Errored Seconds—VT Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error

• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High Order Path Negative Pointer Justification Count
• HP-NPJC-PGEN	High Order Path, Negative Pointer Justification Count
• HP-OI	Outage Intensity
• HP-PJCDIFF	High Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High Order Path Pointer Justification Count
• HP-PJCS-PGEN	High Order Path Pointer Justification Count Seconds
• HP-PPJC-PDET	High Order Path Positive Pointer Justification Count
• HP-PPJC-PGEN	High Order Path, Positive Pointer Justification Count
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA
• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA
• LBCN	Normalized Laser Bias Current for OC3-8

• LBCN-HWT	Laser Bias Current
• LBCN-LWT	Laser Bias Current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	PPJC-PDET:Negative Pointer Justification
• NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification
• OPR-AVG	Average Receive Power in one tenth of a microW
• OPR-MAX	Maximum Receive Power in one tenth of a microW
• OPR-MIN	Minimum Receive Power in one tenth of a microW
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microW
• OPT-MAX	Maximum Transmit Power in one tenth of a microW
• OPT-MIN	Minimum Transmit Power in one tenth of a microW
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	PPJC-PDET:Positive Pointer Justification
• PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification

• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VT Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VT Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<LOCATION>	The location. A null value defaults to NEND. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<THLEV>	Threshold level. Indicates the threshold value. THLEV is a float.

<TMPER>	The accumulation time period for performance counters. A null value defaults to 15-MIN. The parameter type is TMPER, which is the accumulation time period for the performance management counter.
• 1-DAY	Performance parameter accumulation interval length is every 24 hours.
• 1-HR	Performance parameter accumulation interval length is every 1 hour.
• 1-MIN	Performance parameter accumulation interval length is every 1 minute.
• 15-MIN	Performance parameter accumulation interval length is every 15 minutes.
• RAW-DATA	Performance parameter accumulation interval length starts from the last time the counters were cleared. This is only applicable to RMON-managed PMs.

21.96 RTRV-TOD

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Time of Day (RTRV-TOD) command retrieves the system date and time at the instant when the command was executed. The time returned is in Coordinated Universal Time (UTC).

Usage Guidelines None

Category System

Security Retrieve

Input Format RTRV-TOD:[<TID>]::<CTAG>;

Input Example RTRV-TOD:CAZADERO::230;

Input Parameters None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<YEAR>,<MONTH>,<DAY>,<HOUR>,<MINUTE>,<SECOND>,<DIFFERENCE>:<TMTYPE>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "2002,05,08,17,01,33,840:LINT"
;
```

Output Parameters

<YEAR>	The current calendar year. YEAR is a string.
<MONTH>	The month of the year. Ranges from 01 to 12. MONTH is a string.
<DAY>	The day of the month. Ranges from 01 to 31. DAY is a string.
<HOUR>	The hour of the day. Ranges from 00 to 23. HOUR is a string.
<MINUTE>	The minute of the hour. Ranges from 00 to 59. MINUTE is a string.
<SECOND>	The second of the minute. Ranges from 00 to 59. SECOND is a string.
<DIFFERENCE>	The number of minutes off UTC. The parameter type is DIFFERENCE, which is the number of minutes off UTC.
• -120	2 hours before UTC
• -180	3 hours before UTC
• -210	3.5 hours before UTC
• -240	4 hours before UTC
• -300	5 hours before UTC
• -360	6 hours before UTC
• -420	7 hours before UTC
• -480	8 hours before UTC
• -540	9 hours before UTC
• -60	1 hour before UTC
• -600	10 hours before UTC
• -660	11 hours before UTC
• 0	UTC
• 120	2 hours after UTC
• 180	3 hours after UTC
• 210	3.5 hours after UTC
• 240	4 hours after UTC
• 270	4.5 hours after UTC
• 300	5 hours after UTC
• 330	5.5 hours after UTC
• 345	5.75 hours after UTC
• 360	6 hours after UTC
• 390	6.5 hours after UTC
• 420	7 hours after UTC
• 480	8 hours after UTC
• 540	9 hours after UTC
• 570	9.5 hours after UTC
• 60	1 hour after UTC

• 600	10 hours after UTC
• 630	10.5 hours after UTC
• 660	11 hours after UTC
• 690	11.5 hours after UTC
• 720	12 hours after UTC
• 765	12.75 hours after UTC
• 780	13 hours after UTC
• 840	14 hours after UTC
TMTYPE	Identifies the time zone. String

21.97 RTRV-TRAPTABLE

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Trap Table (RTRV-TRAPTABLE) command retrieves a trap destination entry identified by a specific trap destination address.

Usage Guidelines

None

Category

System

Security

Retrieve

Input Format

RTRV-TRAPTABLE:[<TID>]:[<AID>]:<CTAG>;

Input Example

RTRV-TRAPTABLE::1.2.3.4:1;

Input Parameters

<AID>	Access identifier from the "25.16 IPADDR" section on page 25-37. IP address identifying the trap destination. Only a numeric IP address is allowed. A null value is equivalent to ALL.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<DEST>,<TRAPPORT>,<COMMUNITY>,<SNMPVERSION>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "1.2.3.4,162,\"PRIVATE\",SNMPV1"
;
```

Output Parameters

<DEST>	Access identifier from the "25.16 IPADDR" section on page 25-37.
<TRAPPORT>	UDP port number associated with the trap destination. Defaults to 162. Integer
<COMMUNITY>	Community name associated to the trap destination. Maximum of 32 characters. COMMUNITY is a string.
<SNMPVERSION>	SNMP version number. Defaults to SNMPv1. The parameter type is SNMP_VERSION, which is the SNMP version.
• SNMPV1	SNMP version 1 (default)
• SNMPV2	SNMP version 2

21.98 RTRV-TRC-<OCN_BLSR>

(Cisco ONS 15454, ONS 15327, ONS 15600) The Retrieve Trace Client for OC12, OC192, or OC48 (RTRV-TRC-<OCN_BLSR>) command retrieves the valid J1 expected trace string, retrieved trace string, trace mode, C2 byte, and STS bandwidth of the OC-N port only if the port has a BLSR.

Usage Guidelines

- See Table 27-1 on page 27-1 for supported modifiers by platform.
- This command only applies to OC48AS and OC192 cards.
- Sending this command over unsupported BLSR path trace cards, or unequipped cards will result in a J1 Trace Not Supported On This Card (IIAC) error.

Category

BLSR

Security

Retrieve

Input Format

RTRV-TRC-<OCN_BLSR>:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-TRC-OC48:CISCO:FAC-6-1:238;

Input Parameters

<AID>	Access identifier from the "25.15 FACILITY" section on page 25-33. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[LEVEL=<LEVEL>],[EXPTRC=<EXPTRC>],[INCTRC=<INCTRC>],
   [TRCMODE=<TRCMODE>],[C2=<C2>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "STS-6-1-25::LEVEL=STS1,EXPTRC="EXPTRCSTRING",INCTRC="INCTRCSTRING",
   TRCMODE=AUTO,C2=0X04"
;
```

Output Parameters

<AID>	Access identifier from the "25.25 STS" section on page 25-41.
<LEVEL>	(Optional) The rate of the cross-connect. The parameter type is STS_PATH, which is the modifier for some STS commands.
• STS1	Synchronous Transport Signal level 1 (51 Mbps)
• STS12C	Synchronous Transport Signal level 12 Concatenated (622 Mbps)
• STS18C	Synchronous Transport Signal level 18 Concatenated (933 Mbps)
• STS192C	Synchronous Transport Signal level 192 (9952 Mbps)
• STS24C	Synchronous Transport Signal level 24 Concatenated (1240 Mbps)
• STS36C	Synchronous Transport Signal level 36 Concatenated (1866 Mbps)
• STS3C	Synchronous Transport Signal level 3 Concatenated (155 Mbps)
• STS48C	Synchronous Transport Signal level 48 Concatenated (2488 Mbps)
• STS6C	Synchronous Transport Signal level 3 Concatenated (310 Mbps)
• STS9C	Synchronous Transport Signal level 9 Concatenated (465 Mbps)
<EXPTRC>	(Optional) Expected path trace content. Indicates the expected path trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR (carriage return) and LF (line feed). EXPTRC is a string.
<INCTRC>	(Optional) The incoming path trace message contents. INCTRC is any combination of 64 characters including CR and LF. INCTRC is a string.
<TRCMODE>	(Optional) Trace mode. The parameter type is TRCMODE (trace mode).
• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.
• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• MAN	Use the provisioned expected string as the expected string
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• OFF	Turn off path trace capability. Nothing will be reported

<C2>	(Optional) The C2 byte hex code. Applicable only to STS-level paths in SONET (STSn). The parameter type is C2_BYTE, which is the C2 byte hex code.
• 0X00	Unequipped
• 0X01	Equipped-Non Specific payload
• 0X02	VT-Structured STS-1 SPE
• 0X03	Locked VT Mode
• 0X04	Asynchronous Mapping for DS3
• 0X12	Asynchronous Mapping for DS4NA
• 0X13	Mapping for ATM
• 0X14	Mapping for DQDB
• 0X15	Asynchronous Mapping for FDDI
• 0X16	HDLC-Over-SONET Mapping
• 0XE1	VT-structured STS-1 SPE with 1VTx payload defect
• 0XE2	VT-structured STS-1 SPE with 2VTx payload defects
• 0XE3	VT-structured STS-1 SPE with 3VTx payload defects
• 0XE4	VT-structured STS-1 SPE with 4VTx payload defects
• 0XE5	VT-structured STS-1 SPE with 5VTx payload defects
• 0XE6	VT-structured STS-1 SPE with 6VTx payload defects
• 0XE7	VT-structured STS-1 SPE with 7VTx payload defects
• 0XE8	VT-structured STS-1 SPE with 8VTx payload defects
• 0XE9	VT-structured STS-1 SPE with 9VTx payload defects
• 0XEA	VT-structured STS-1 SPE with 10VTx payload defects
• 0XEB	VT-structured STS-1 SPE with 11VTx payload defects
• 0XEC	VT-structured STS-1 SPE with 12VTx payload defects
• 0XED	VT-structured STS-1 SPE with 13VTx payload defects
• 0XEE	VT-structured STS-1 SPE with 14VTx payload defects
• 0XEF	VT-structured STS-1 SPE with 15VTx payload defects
• 0XF0	VT-structured STS-1 SPE with 16VTx payload defects
• 0XF1	VT-structured STS-1 SPE with 17VTx payload defects
• 0XF2	VT-structured STS-1 SPE with 18VTx payload defects
• 0XF3	VT-structured STS-1 SPE with 19VTx payload defects
• 0XF4	VT-structured STS-1 SPE with 20VTx payload defects
• 0XF5	VT-structured STS-1 SPE with 21VTx payload defects
• 0XF6	VT-structured STS-1 SPE with 22VTx payload defects
• 0XF7	VT-structured STS-1 SPE with 23VTx payload defects
• 0XF8	VT-structured STS-1 SPE with 24VTx payload defects
• 0XF9	VT-structured STS-1 SPE with 25VTx payload defects
• 0XFA	VT-structured STS-1 SPE with 26VTx payload defects
• 0XFB	VT-structured STS-1 SPE with 27VTx payload defects
• 0XFC	VT-structured STS-1 SPE with 28VTx payload defects

• 0XFE	O.181 Test Signal (TSS1 to TSS3) Mapping
• 0XFF	Reserved, however, C2 is 0XFF if AIS-L is being generated by an optical card or cross-connect downstream.

21.99 RTRV-TRC-OCH

(Cisco ONS 15454) The Retrieve Trace Optical Channel (RTRV-TRC-OCH) command retrieves the sent trace string, expected trace string, received trace string, trace mode, and the trace level for the SONET J0 Section, the TTI PATH and SECTION monitoring levels of the DWDM facility.

Usage Guidelines

The following rules apply:

- Client port–only the J0 Section trace applies.
- The J0 Section trace applies only if the card termination mode is not transparent and the payload is SONET/SDH.
- On the DWDM port, the J0 Section trace, the TTI Path, Section trace monitoring point traces are allowed.
- The J0 Section trace is allowed only if the payload for the card is set to SONET/SDH.
- The J0 Section trace is allowed only if the card termination mode is not transparent.
- The TTI Path, Section trace is allowed only if the ITU-T G.709 (DWRAP) is enabled.

Depending on the settings, the following filtering applies:

- If no TRCLEVEL is provided, all TRCLEVELs are reported as applicable.
- If TRCLEVEL is provided and no MSGTYPE is provided, all applicable MSGTYPEs for the given level are displayed.
- If no MSGTYPE is provided, all MSGTYPEs are reported as applicable.
- If a MSGTYPE is provided with out a TRCLEVEL, then the given MSGTYPE for all TRCLEVELs are displayed.

Category

DWDM

Security

Retrieve

Input Format

RTRV-TRC-OCH:[<TID>]:<SRC>:<CTAG>::[<MSGTYPE>],[<TRCLEVEL>][::];

Input Example

RTRV-TRC-OCH:CISCO:CHAN-2-2:100::EXPTRC,TTI-PM;

Input Parameters

<SRC>	Access identifier from the "25.8 CHANNEL" section on page 25-19. Must not be null.
<MSGTYPE>	Type of autonomous message to be retrieved. A null value is equivalent to ALL. The parameter type is MSGTYPE, which is the type of trace message.
• EXPTRC	Expected incoming path trace message
• INCTRC	Incoming path trace message
• TRC	Outgoing path trace message
<TRCLEVEL>	The trace level to be managed. A null value is equivalent to ALL. The parameter type is TRCLEVEL, which is the trace mode options.
• J0	Identifies the SONET J0 Section trace level
• TTI-PM	Identifies the TTI Path monitoring point
• TTI-SM	Identifies the TTI Section monitoring point

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<CHANNEL>,<MOD>::[TRCLEVEL=<TRCLEVEL>],[EXPTRC=<EXPTRC>],
   [TRC=<TRC>],[INCTRC=<INCTRC>],[TRCMODE=<TRCMODE>],
   [TRCFORMAT=<TRCFORMAT>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "CHAN-2-2,OCH::TRCLEVEL=TTI-PM,EXPTRC=\"AAA\",TRC=\"AAA\",
   INCTRC=\"AAA\",TRCMODE=MAN,TRCFORMAT=64-BYTE"
;
```

Output Parameters

<CHANNEL>	Access identifier from the "25.8 CHANNEL" section on page 25-19.
<MOD>	Indicates an OCH AID type. The parameter type is MOD2, which is the line/path modifier.
• 10GFC	10 Gigabit Fibre Channel
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1 Gigabit Fibre Channel
• 1GFICON	1 Gigabit FICON
• 1GISC3	1 Gbps ISC3 compatible
• 2GFC	2 Gigabit Fibre Channel
• 2GFICON	2 Gigabit FICON
• 2GISC3	2 Gbps ISC3 compatible
• 4GFC	4 Gbps Fibre Channel
• 4GFICON	4 Gbps fiber connection
• D1VIDEO	D1 video
• DS1	DS1 line of a DS3XM card

• DS3I	DS3I line
• DV6000	DV6000
• EC1	EC1 facility
• ESCON	ESCON
• ETRCLO	ETRCLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over packet over SONET. Virtual Ports partitioned using GFP's multiplexing capability.
• GIGE	GIG Ethernet
• HDTV	HDTV
• ISC3PEER1G	1 Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• OC3	OC-3 facility
• OC12	OC-12 facility
• OC48	OC-48 facility
• OC192	OC-192 facility
• OCH	Optical Channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port
• STS1	STS1 path
• STS3C	STS3c path
• STS6C	STS6c path
• STS9C	STS9c path
• STS18C	STS18c path
• STS12C	STS12c path
• STS24C	STS24c path
• STS36C	STS36c path
• STS48C	STS48c path
• STS192C	STS192c path
• T1	T1/DS1 facility/line
• T3	T1/DS1 facility/line
• VT1	VT1 path
• VT2	VT2 path
<TRCLEVEL>	(Optional) The trace level to be managed. The parameter type is TRCLEVEL, which is the trace mode options.

• J0	Identifies the SONET J0 Section trace level.
• TTI-PM	Identifies the TTI Path monitoring point.
• TTI-SM	Identifies the TTI Section monitoring point.
<EXPTRC>	(Optional) Expected path trace content. A 64 character ASCII string.
<TRC>	(Optional) The path trace message to be transmitted. The trace byte continuously transmits a 64 byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (hex 00) and CR and LF. TRC is a string.
<INCTRC>	(Optional) The incoming path trace message contents. INCTRC is a string.
<TRCMODE>	(Optional) Trace mode. The parameter type is TRCMODE (trace mode).
• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.
• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• OFF	Turn off path trace capability. Nothing will be reported.
TRCFORMAT	(Optional) The size of the trace message. If in SONET/SDH mode, only 1 or 16 bytes is applicable for the J0 section trace. The TTI level trace is only 64 bytes. The parameter type is TRCFORMAT (trace format).
• 1-BYTE	1 byte trace message
• 16-BYTE	16 byte trace message
• 64-BYTE	64 byte trace message
• Y	Enable an attribute.

21.100 RTRV-TUNNEL-FIREWALL

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Tunnel Firewall (RTRV-TUNNEL-FIREWALL) command retrieves the contents of the firewall tunnel table.

Usage Guidelines None

Category System

Security Retrieve

Input Format

RTRV-TUNNEL-FIREWALL:[<TID>]::<CTAG>;

Input Example

RTRV-TUNNEL-FIREWALL:TID::CTAG;

Input Parameters

None that require description

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "[SRC ADDR=<SRCADDR>],[SRC MASK=<SRCMASK>],[DEST ADDR=<DESTADDR>],
   [DEST MASK=<DESTMASK>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "SRC ADDR=64.101.150.10,SRC MASK=255.255.255.0,DEST ADDR=64.101.144.7,
   DEST MASK=255.255.255.0"
;
```

Output Parameters

<SRCADDR>	(Optional) Source IP address. SRCADDR is a string.
<SRCMASK>	(Optional) Source mask. SRCMASK is a string.
<DESTADDR>	(Optional) Destination IP address. DESTADDR is a string.
<DESTMASK>	(Optional) Destination mask. DESTMASK is a string.

21.101 RTRV-TUNNEL-PROXY

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve Tunnel Proxy command retrieves the contents of the proxy tunnel table.

Usage Guidelines

None

Category

System

Security

Retrieve

Input Format

RTRV-TUNNEL-PROXY:[<TID>]::<CTAG>;

Input Example

RTRV-TUNNEL-PROXY:TID::CTAG;

Input Parameters

None that require descriptions

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "[SRC ADDR=<SRCADDR>],[SRC MASK=<SRCMASK>],[DEST ADDR=<DESTADDR>],
   [DEST MASK=<DESTMASK>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "SRC ADDR=64.101.150.10,SRC MASK=255.255.255.0,DEST ADDR=64.101.144.7,
   DEST MASK=255.255.255.0"
;
```

Output Parameters

<SRCADDR>	(Optional) Source IP address. SRCADDR is a string.
<SRCMASK>	(Optional) Source mask. SRCMASK is a string.
<DESTADDR>	(Optional) Destination IP address. DESTADDR is a string.
<DESTMASK>	(Optional) Destination mask. DESTMASK is a string.

21.102 RTRV-USER-SECU

(Cisco ONS 15454, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15600) The Retrieve User Security (RTRV-USER-SECU) command retrieves the security information of a specified user or list of users. The keyword ALL can be used to obtain a list of all users. For security reasons the password cannot be retrieved.

Usage Guidelines

A Superuser can retrieve any user's security information. A user with MAINT, PROV, or RTRV privileges can only retrieve their own information.

Note When using the keyword ALL, all users created for the system are displayed. This includes users created outside of the TL1 environment (for example, user IDs and passwords greater than 10 characters in length). Although displayed by the RTRV-USER-SECU command, these users will not be able to log into the TL1 environment.

Category

Security

Security Retrieve

Note Maintenance, Provisioning and Retrieve users can retrieve their own information only.

Input Format

```
RTRV-USER-SECU:[<TID>]:<UID>:<CTAG>;
```

Input Example

```
RTRV-USER-SECU::CISCO15:1;
```

Input Parameters

<UID>	User identifier. The user ID or the keyword ALL. A non-Superuser can only specify his own user ID. Must not be null. UID is a string.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<UID>:,<PRIVILEGE>:LOGGEDIN=<LOGGEDIN>,[NUMSESSIONS=<NUMSESS>,]
   [LOCKEDOUT=<LOCKEDOUT>,][DISABLED=<DISABLED>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "CISCO15:,SUPER:LOGGEDIN=YES,NUMSESSIONS=1,LOCKEDOUT=NO,DISABLED=NO"
;
```

Output Parameters

<UID>	User identifier. The user ID that was retrieved. UID is a string.
<PRIVILEGE>	The privilege level of the user. The parameter type is PRIVILEGE, which is the security level.
• MAINT	Maintenance security level. 60 minutes of idle time.
• PROV	Provision security level. 30 minutes of idle time.
• RTRV	Retrieve security level. Unlimited idle time.
• SUPER	Superuser security level. 15 minutes of idle time.
<LOGGEDIN>	Indicates whether the user is logged in to the NE. The parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
<NUMSESS>	(Optional) The number of times the user is logged into the NE. NUMSESS is an integer.

<LOCKEDOUT>	(Optional) Indicates whether the user is locked out of the NE. The parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
<DISABLED>	(Optional) Indicates if the user is disabled. The parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes

21.103 RTRV-VCG

(Cisco ONS 15454, ONS 15310-CL, ONS 15310-MA) The Retrieve Virtual Concatenation Group (RTRV-VCG) command retrieves all the attributes provisioned for a VCG.

Usage Guidelines

None

Category

VCAT

Security

Retrieve

Input Format

RTRV-VCG:[<TID>]:<SRC>:<CTAG>[::::];

Input Example

RTRV-VCG:NODE1:FAC-1-1:1234;

Input Parameters

<SRC>	Source access identifier from the "25.15 FACILITY" section on page 25-33. ML1000-2 and ML100T-12 cards use the VFAC AID. The FC_MR-4 card uses the FAC AID. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<SRC>::TYPE=<TYPE>,TXCOUNT=<TXCOUNT>,CCT=<CCT>,[LCAS=<LCAS>],
   [BUFFERS=<BUFFERS>],[NAME=<NAME>]:<PST>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "FAC-1-1::TYPE=STS3C,TXCOUNT=8,CCT=2WAY,LCAS=LCAS,BUFFERS=DEFAULT,
   NAME="VCG2":IS"
;
```

Output Parameters

<SRC>	Source access identifier from the "25.15 FACILITY" section on page 25-33. ML1000-2 and ML100T-12 cards use the VFAC AID. The FC_MR-4 card uses the FAC AID.
<TYPE>	The type of the entity being provisioned. Null indicates not applicable. TYPE can be a CLEI code or another value. The type of member cross-connect. ML1000-2 and ML100T-12 cards support STS1, STS3c, and STS12c. The FC_MR-4 card supports STS3c only. The parameter type is MOD_PATH, which is the STS/VT path modifier.
• STS1	STS1 path
• STS12C	STS12c path
• STS18C	STS18c path
• STS192	STS192c path
• STS24C	STS24c path
• STS36C	STS36c path
• STS3C	STS3c path
• STS48C	STS48c path
• STS6C	STS6c path
• STS9C	STS9c path
• VT1	VT1 path
• VT2	VT2 path
<TXCOUNT>	Number of VCG members in the transmit (Tx) direction. For ML1000-2 and ML100T-12 cards, the only valid value is 2. For the FC_MR-4 card, the only valid value is 8. TXCOUNT is an integer.
<CCT>	Type of connection; one-way or two-way. Cross-connect type for the VCG member cross-connects. The parameter type is CCT, which is the type of cross-connect to be created.
• 1WAY	A unidirectional connection from a source tributary to a destination tributary
• 1WAYDC	Path protection multicast drop with 1-way continue
• 1WAYEN	Path protection multicast end node (1-way continue)
• 1WAYMON	A bidirectional connection between the two tributaries **Note** 1WAYMON is not supported with TL1. However, it is still supported from CTC. Using CTC, you can create 1WAYMON cross-connects that can be retrieved by TL1.
• 1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber
• 2WAY	A bidirectional connection between the two tributaries

• 2WAYDC	A bidirectional drop and continue connection applicable only to path protection traditional and integrated dual-ring interconnects
• 2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber
• DIAG	Diagnostics cross-connect. Supports BERT (BLSR PCA diagnostics cross-connect).
<LCAS>	(Optional) Link capacity adjustment scheme. The parameter type is LCAS, which is the link capacity adjustment scheme mode for the VCG created.
• LCAS	LCAS is enabled.
• NONE	No LCAS.
• SW-LCAS	Supports the temporary removal of a VCG member during the member failure. Only supported by the ML1000-2 and ML100T-12 cards.
<BUFFERS>	(Optional) Buffer type. The default value is DEFAULT. The FC_MR-4 card supports DEFAULT and EXPANDED buffers. Other data cards support DEFAULT buffers only. The parameter type is BUFFER_TYPE, which is the buffer type (used in VCAT).
• DEFAULT	Default buffer value
• EXPANDED	Expanded buffer value
<NAME>	(Optional) Name of the VCAT group. NAME is a string.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• IS	In Service
• OOS	Out of Service

21.104 RTRV-VT

(Cisco ONS 15454) The Retrieve Virtual Tributary (RTRV-VT) command retrieves the attributes associated with a VT path based on the granularity level of NE- or slot-specific VTs.

Usage Guidelines

- Supported AIDs are ALL, SLOT-N (N=1,2,...ALL), VT-<SLOT>[-<PORT>]-<STS NUMBER>-<VT GROUP>-<VT NUMBER>.
- The RVRTV, RVTM, HOLDOFFTIMER, and UPSRPTHSTATE parameters only apply to path protection.

Category Paths

Security Retrieve

Input Format RTRV-VT:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-VT:TID:VT1-1-1-1-1:1;

Input Parameters

<AID>	Access identifier from the "25.2 AidUnionId" section on page 25-11. Must not be null.

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>::[LEVEL=<LEVEL>],[RVRTV=<RVRTV>],[RVTM=<RVTM>],
[HOLDOFFTIMER=<HOLDOFFTIMER>],[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],
[UPSRPTHSTATE=<UPSRPTHSTATE>]:[<PST>],[<SST>]"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"VT1-1-1-1-1-1::LEVEL=VT1,RVRTV=Y,RVTM=1.0,HOLDOFFTIMER=2000,TACC=8,
TAPTYPE=SINGLE,UPSRPTHSTATE=ACT:OOS,AINS"
;

Output Parameters

<AID>	Access identifier from the "25.2 AidUnionId" section on page 25-11.
<LEVEL>	(Optional) The rate of the cross-connect. Indicates the rate of the cross-connected channel. Applicable only to VT1 path in SONET. The parameter type is VT_PATH, which is the modifier for some VT commands.
• VT1	Virtual Tributary 1
• VT2	Virtual Tributary 2
<RVRTV>	(Optional) Revertive mode. Only applies to path protection. The value Y indicates that the protection switching system reverts service to the original line after restoration. The value N indicates that the protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RVTM>	(Optional) Revertive time. Only applies to path protection. Defaults to empty because RVRTV is N when a path protection path is created. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<HOLDOFFTIMER>	(Optional) Hold off timer. HOLDOFFTIMER is an integer.
<TACC>	(Optional) Test access. Indicates whether the digroup being provisioned is to be used as a test access digroup. Defaults to N.

<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<UPSRPTHSTATE>	(Optional) Indicates whether a given AID is the working or standby path of a path protection cross-connect. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<PST>	Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• IS	In Service
• OOS	Out of Service
<SST>	Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

21.105 RTRV-WDMANS

(Cisco ONS 15454) The Retrieve Wavelength Division Multiplexing Automatic Node Setup (RTRV-WDMANS) command edits the automatic optical node setup (AONS) application attributes.

Usage Guidelines None

Category DWDM

Security Maintenance

Input Format RTRV-WDMANS:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-WDMANS:PENNGROVE:WDMANS-W:114;

Input Parameters

<AID>	Access identifier from the "25.32 WDMANS" section on page 25-51. Must not be null.

Output Format

```
   SID DATE TIME
M  CTAG COMPLD
   "<AID>::[POWERIN=<POWERIN>],[POWEROUT=<POWEROUT>],
   [POWEREXP=<POWEREXP>],[NTWTYPE=<NTWTYPE>],
   [OPTICALTYPE=<OPTICALTYPE>],[LASTRUNDAT=<LASTRUNDAT>],
   [LASTRUNTM=<LASTRUNTM>]"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001  COMPLD
   "WDMANS-W::POWERIN=10.0,POWEROUT=10.0,POWEREXP=10.0,
   NTWTYPE=METRO-CORE,OPTICALTYPE=OADM,LASTRUNDAT=01-01-01,
   LASTRUNTM=10-55-00"
;
```

Output Parameters

<AID>	Access identifier from the "25.32 WDMANS" section on page 25-51.
<POWERIN>	(Optional) Input power for an OADM section of an OADM NE. POWERIN is a float.
<POWEROUT>	(Optional) Output power for an OADM or multiplex/demultiplex section of HUB, TERMINAL, or OADM nodes. POWEROUT is a float.
<POWEREXP>	(Optional) Express power for a multiplex/demultiplex section of a HUB or TERMINAL NE. POWEREXP is a float.
<NTWTYPE>	(Optional) Type of network with DWDM node installed. The parameter type is DWDM_RING_TYPE, which is the network type where NE is installed.
• METRO-ACCESS	The network where a DWDM node is installed is a metro access network.
• METRO-CORE	The network where a DWDM node is installed is a metro core network.
• NONE	A node that does not have a standard DWDM configuration.
<OPTICALTYPE>	(Optional) The optical configuration type for the NE. The parameter type is OPTICAL_NODE_TYPE, which is the optical configuration types for NEs.
• HUB	A terminal site, EAST, WEST, or both with 32 channel multiplex/demultiplex card.
• LINE-AMPLIFIED	A line site with booster card.
• OADM	A site with OADM cards.

• OSC-REG	An OSC regeneration site with only 2 OSC-CSM cards in both sides.
• ROADM	A site with ROADM cards.
• TDM-HYBRID	A time-division multiplexing (TDM) node with an amplifier directly connected to a TXP/MXP card.
• UNKNOWN	The node type is undefined.
<LASTRUNDAT>	(Optional) The last date when the WDMANS application was run automatically or by user request. The format is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31.
<LASTRUNTM>	(Optional) The last time when the WDMANS application was run automatically or by user request. The format is HH-MM, where HH (hour of day) ranges from 1 to 23 and MM (minute of hour) ranges from 0 to 59.